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ABSTRACT

This report presents data on the number of students enrolled and the number of bachelor's, master's, and doctoral degrees awarded in academic year 1981-82 from 72 United States institutions offering degree programs in nuclear engineering or nuclear options within other engineering fields. Presented as well are historical data for the last decade which provide such information as trends by degree level and program option, foreign national student participation, female and minority student participation, and placement of graduates. A listing of universities by type of program and number of students is also included. Among the findings reported are: (1) enrollments at all degree levels increased during the 1981-82 academic year; (2) the largest employment of graduates at all degree levels was by private industry; (3) although increases in bachelor's and master's degrees were noted, doctoral degrees awarded fell slightly (by 4 percent) to 126 in 1982; (4) minority participation remained low; (5) almost half of doctoral enrollments and graduating Ph.D.'s in 1982 were foreign nationals; and (6) the East North Central region dominated at all levels of enrollments and degrees awarded. (Detailed statistical tables, addresses of institutions with active or inactive nuclear engineering programs, and survey materials are found in appendices.) (JN)

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# Nuclear Engineering Enrollments and Degrees, 1982

Prepared for
**U.S. Department of Energy**
Office of Energy Research
Manpower Assessment Program
Under contract number DE-AC05-760R00033
and
**U.S. Nuclear Regulatory Commission**
Office of Administration

May 1983

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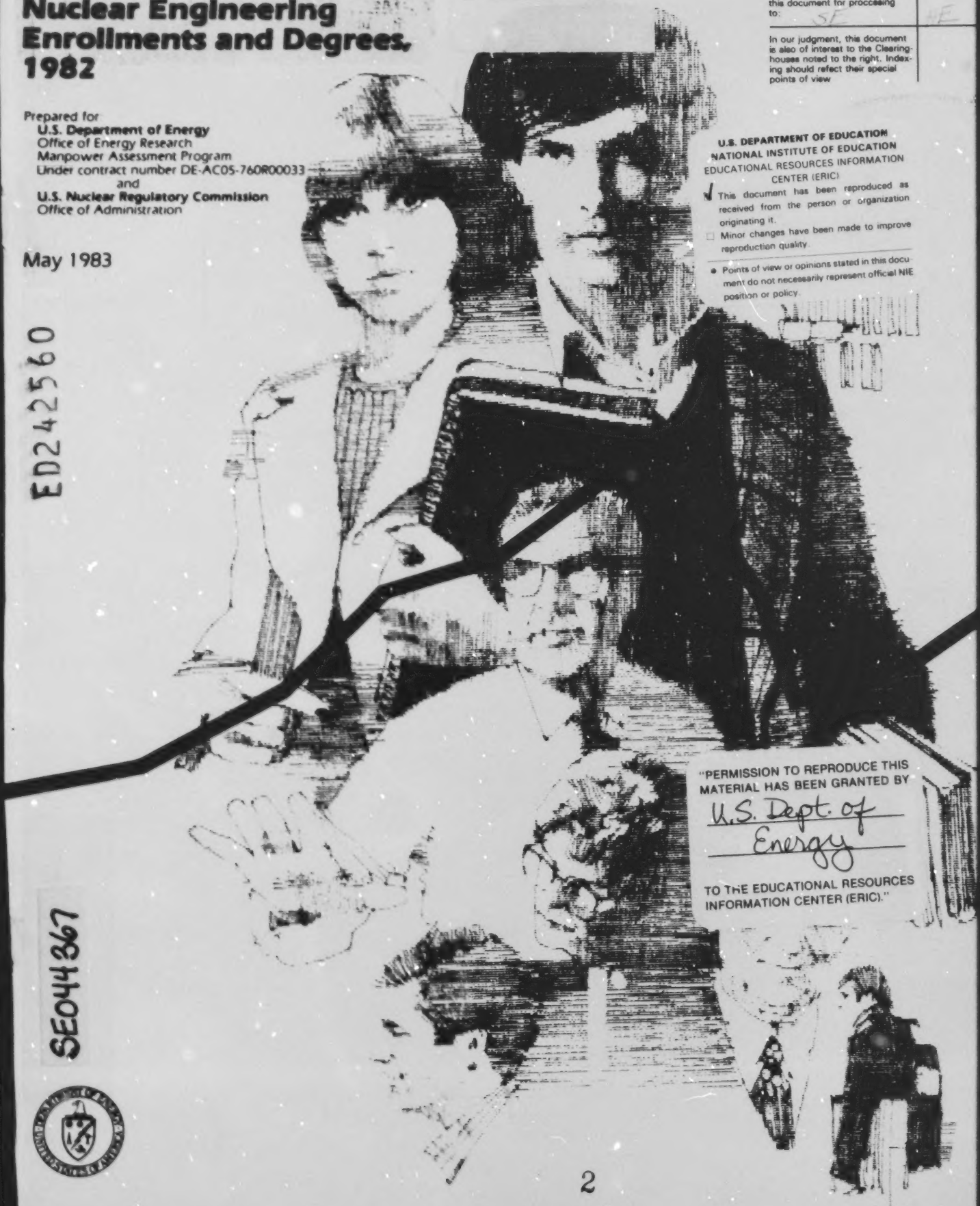

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Washington, D.C. 20585
and
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May 1983

Prepared by:
Deborah H. Sweeney, Robert B. Garey, and Duveen L. Shirley
Oak Ridge Associated Universities
Oak ridge, Tennessee 37830
Under contract number DE-AC05-760R00033

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ABSTRACT

This report presents data on the number of students enrolled and the degrees awarded in academic year 1981-82 from 72 U.S. institutions offering degree programs in nuclear engineering or nuclear options within other engineering fields.

Presented as well are historical data for the last decade, which provide information such as trends by degree level and program option, foreign national student participation, female and minority student participation, and placement of graduates. Included is a listing of the universities by type of program and number of students.

# FOREWORD

There has been increasing demand for trained personnel to work in the nuclear field in recent years. But there has been negligible growth over the past five years in the number of bachelor's and master's nuclear engineering degrees, and in 1982, the number of doctoral nuclear engineering degrees awarded decreased. These trends have prompted much concern and action on the part of government and industry officials. Reports by the U.S. Department of Energy, the Institute of Nuclear Power Operations, and the National Research Council* have indicated that continued growth in nuclear engineering education programs will be required to meet future staffing needs. These needs will be created by growth and turnover in the nuclear power industry, in nuclear research and development activities, and in academic programs. While cutbacks in some parts of the industry have recently contributed to reducing the backlog in vacancies, the continuing low enrollments are cause for concern.

The purpose of this series of nuclear engineering enrollment and degree surveys is to chart the changes in the supply of new nuclear engineers and thereby assist planners and educators in assuring this needed human resource.

The U.S. Department of Energy appreciates the continuing cooperation of the educational institutions involved in nuclear-related engineering training. We acknowledge and thank all those who have provided the data for these reports.

June Chewning

June Chewning
Manpower Assessment Program
Office of Energy Research

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*U.S. Department of Energy, A Study of the Adequacy of Personnel for the U.S. Nuclear Program (Washington, D.C., November 1981); Institute of Nuclear Power Operations, A Survey of Occupational Employment and Training in the Nuclear Power Industry, Manpower Studies Series, Report No. 1 (Atlanta, Georgia, September 1981); and National Research Council, Personnel Supply and Demand Issues in the Nuclear Power Industry (Washington, D.C., December 1981).

# INTRODUCTION

This report presents information received in the twelfth annual survey of the institutions which educate the nation's nuclear engineers. The survey was developed in 1970 because it was discovered that some of the graduates of our most prestigious nuclear engineering programs were excluded in other surveys. These were graduates of institutions which offered the nuclear engineering degree through their mechanical engineering departments or their electrical engineering departments, etc., and these graduates were therefore counted in the mechanical or other engineering areas. This survey has been sent directly to the departments which offer nuclear programs, rather than to the registrars, in order to provide a more accurate count of nuclear engineering graduates than has been provided by other sources.

Throughout the years, these surveys have been of benefit to employers and institutions far beyond the Department of Energy, which uses them for program planning. Employers have found them a valuable resource for recruitment; the institutions themselves have found the surveys useful in providing information on trends and on how their programs compare with those of other universities; and students use them to find the universities with programs in the nuclear speciality of interest to them.

The number of institutions included varies from year to year as schools are added or programs disappear. In the current survey, one respondent was dropped because its program was discontinued: the University of Rhode Island. Historical information is updated to include any prior years' data from new additions to the survey. Thus, previous volumes of the survey may contain different information for earlier years than is found in this report.

Graphics are used to summarize data and highlight important trends in enrollments, degrees, foreign national participation, and placement of graduates. Appendixes contain detailed statistics, addresses of participating institutions, and samples of the survey materials.

# HIGHLIGHTS

## Survey Universe

During the summer of 1982, the survey population was revised to reflect changes in the status of existing programs or add newly identified programs not previously included. As a result, 1 school was dropped from the population list, bringing the total to 72. Of the 72, 3 reported having inactive programs, 1 had discontinued its program, and 1 restored its program to active status.

## Enrollments

Enrollments at all degree levels increased during the 1981-82 academic year. Undergraduate enrollments increased 16 percent. Master's and doctoral candidates increased more modestly by 8 percent and 5 percent, respectively.

## Degrees Awarded

For the first time in three years, bachelor's degrees awarded in nuclear engineering rose slightly (by 2 percent), with 654 awarded in 1982. Master's degree recipients increased by 8 percent, from 315 in 1981 to 339 in 1982, but were still below the 1980 level of 365. Nevertheless, this was the first upturn in master's degrees granted since 1977. On the other hand, Ph.D.'s awarded fell slightly (by 4 percent) to 126 in 1982.

## Placement

As in past years, the largest employment of graduates at all degree levels was by private industry (represented in this year's survey by two placement categories: "industrial employment" and "nuclear utility employment"). Industrial employment other than in nuclear utilities accounted for approximately a quarter of the graduates at all degree levels. Sixty-one percent of those were bachelor's degree holders. The "industrial employment" category was the largest placement category for bachelor's and doctoral students but was the second largest placement category for master's degree holders--one third of whom went on for further study.

"Nuclear utility employment"--a new category in the 1982 survey--was the second largest placement category for bachelor's students and the third largest for master's degree holders. The second largest placement categories for doctoral students were foreign employment and U.S. academic employment. All but one doctoral recipient who were employed by foreign employers were foreign nationals. The U.S. academic employment of doctoral students became considerably more important in 1982, when it accounted for 15 percent of those placed as compared with only 8 percent in 1981.

## Minorities and Women

Minority participation (excluding foreign nationals) remained low, with any one group representing a very low percentage of the total (1 to 3 percent), except for Asian American or Pacific Islander doctoral recipients who increased from 2 percent to 5 percent. The percentage of women remains in the 5 to 8 percent range depending on the degree level.

## Foreign Nationals

Almost half of the doctoral enrollments and graduating Ph.D.'s in 1982 were foreign nationals. Master's candidate enrollments of foreign nationals increased to 30 percent while degrees granted remained at 26 percent of the total. Foreign national participation was lowest at the undergraduate level.

## Regional Distribution

The East North-Central survey region again dominated at all levels of enrollments and degrees granted. The Middle Atlantic region was second in undergraduate and doctoral enrollments and in master's degrees granted. The Pacific region reported the second largest master's enrollments. The Mountain and New England regions granted the second largest numbers of bachelor's and Ph.D. degrees, respectively. Generally, the institutions reporting the largest numbers of enrollments and degrees granted were the Massachusetts Institute of Technology, the University of Illinois-Urbana, the University of Wisconsin-Madison, the University of Michigan, the University of Cincinnati, Pennsylvania State University, and Texas A&M University.

## ENROLLMENTS AND DEGREES

### DOCTORAL

The number of doctoral degrees conferred in 1982 decreased slightly from 1981 (see Figure 1). Since a large percentage of the graduates each year are foreign nationals whose visas are temporary, the Department of Energy and others have become greatly concerned about the adequacy of the supply of nuclear engineers for employment in the United States over the coming decade.[1] The 1982 fall enrollments had a somewhat encouraging 5 percent increase at the doctoral level with 536 full-time and 70 part-time students enrolled. Nevertheless, there are many competing demands for the pool of potential doctoral students. The 1972-73 edition of this report stated that ". . . increased industry recruitment offering high salaries is attracting students away from graduate schools . . ., and in some cases, the faculty as well. The projected level of 120-125 new Ph.D. nuclear engineers yearly will hardly meet a minimum attritional need . . . ."[2] This statement seems even more valid today. Additionally, the nuclear power industry's negative image as ". . . the energy option 'of

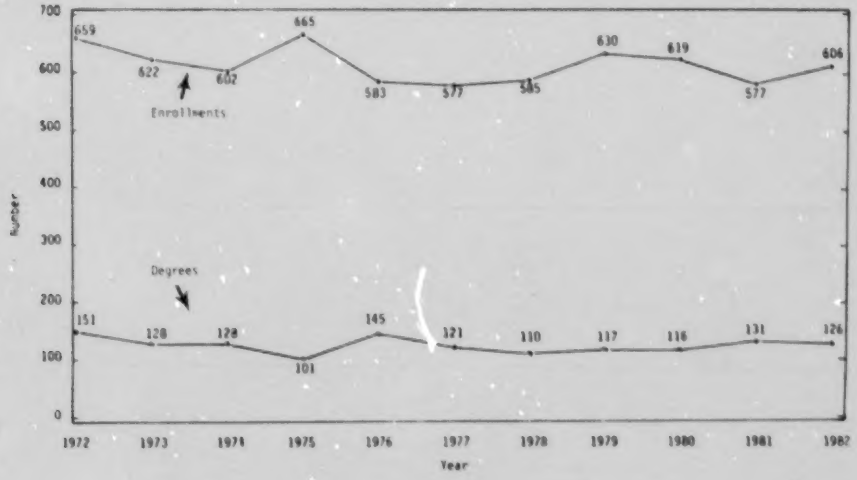


Figure 1. Doctoral Enrollments and Degrees Granted, 1972-1982

Source: U.S. Department of Energy

last resort'"[3] and as a stagnant technology in the U.S.,[4] may encourage field switching away from nuclear engineering[5] and increased foreign education and employment of both U.S. citizens and foreign nationals.[6]

Since 1972, the number of Ph.D.'s awarded annually has averaged 125, and industry concern about the adequacy of supply has grown in view of projections of increased demand.[7] This relatively stable Ph.D. output, as seen in Figure 1, is not unique to nuclear engineering. The percentage that nuclear doctoral degrees represents among all engineering Ph.D. degrees has stayed about the same. Overall, the number of doctoral degrees awarded in all engineering fields peaked in the early seventies but is now back to the level shown in the late sixties (see Appendix A-11).

The percentage of nuclear doctoral students who are receiving specific nuclear engineering degrees has not dropped below the 95 percent mark, but in 1982, degrees granted in mechanical engineering with a nuclear option increased slightly, from 2 percent to 4 percent (see Appendix A-3).

Doctoral degrees were awarded by 49 percent of the institutions in the survey. The Massachusetts Institute of Technology again had the highest number of graduates with 19, and with the largest number of candidates (94), it should continue to produce the highest number of graduates. The University of Illinois-Urbana and the University of Wisconsin-Madison followed with 12 and 11 graduates, respectively. Appendix A-1 shows the number of degrees awarded by institution since the 1971-72 academic year. Appendix A-4 shows the number of enrollments and degrees in subfields by institution for 1982.

MASTER'S

Enrollment in master's programs increased moderately (8 percent) to 946 in 1982 (see Figure 2). This number is still quite low in comparison to the last ten years. In fact, the number of 1982 master's enrollees is 33 percent less than the total enrolled in 1975. The degrees granted in 1982 increased by 8 percent to 339. However, the number of master's degrees in all fields of engineering increased; hence, the percentage of those in nuclear engineering remained below the 2 percent mark (see Appendix A-11).

In both enrollments and degrees granted, 94 percent were in the specific nuclear engineering major. This was a slight increase from 92 percent in 1981.

Small decreases were reported in enrollments and degrees in mechanical engineering with a nuclear option, while degrees in chemical engineering and engineering sciences with a nuclear option each increased to 1 percent (see Appendix A-3).

Seventy-two percent (or 52) of the schools in the survey granted master's degrees. Thirteen of those schools accounted for 60 percent of the degrees awarded. The Massachusetts Institute of Technology awarded the most degrees with 25; the University of Illinois-Urbana was next with 24; Rensselaer Polytechnic Institute was third with 23 (see Appendix A-1). Massachusetts Institute of Technology had by far the largest master's enrollment with 68 enrolled (see Appendix A-4).

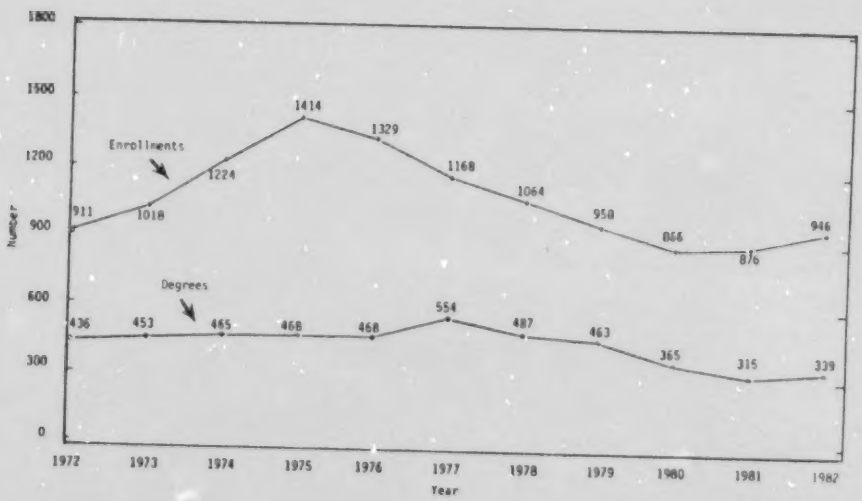


Figure 2. Master's Enrollments and Degrees, 1972-1982

Source: U.S. Department of Energy

BACHELOR'S

In contrast to the trend of the last two years, there was a slight (2 percent) increase in the number of bachelor's degrees awarded (654 in 1982), as Figure 3 shows. Although enrollments at the undergraduate level showed a significant increase of 16 percent, they are still down considerably from the 1977 peak. Further, the total number of baccalaureate degrees awarded in all fields

of engineering increased by 6 percent in 1982 (see Appendix A-11). Consequently, the percentage of all engineering baccalaureate degrees that were in nuclear engineering declined to its lowest point in twelve years (0.98 percent).

Nuclear engineering programs have often been placed within other engineering departments. This is most prevalent at the undergraduate level (see Appendix A-3). In 1982, only 52 percent of the degrees granted and 63 percent of the enrollments were in programs with specifically designated nuclear engineering majors. The second largest group was once again mechanical engineering with a nuclear option, where 15 percent of the enrollments and 11 percent of the degrees were reported. Degrees granted in chemical engineering with a nuclear option increased from 5 percent in 1981 to 10 percent in 1982.

The University of Illinois-Urbana awarded the most nuclear engineering bachelor's degrees with 42, and Penn State and Brigham Young University followed with 38 each (Appendix A-1). Penn State had the largest undergraduate enrollment with 86 enrollees, and the United States Naval Academy was second with 80 enrolled (see Appendix A-4).

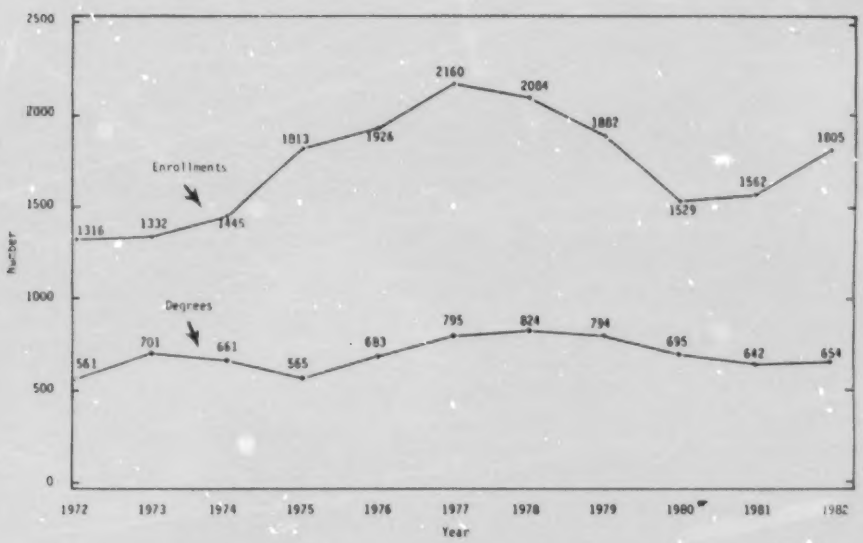


Figure 3. Undergraduate Enrollments and Degrees Granted, 1972-1982

*The reporting form was changed to reflect "juniors and seniors", respectively, in 1980 by deleting 5th year as a separate category on the survey form.

Source: U.S. Department of Energy

PLACEMENT OF GRADUATES

The placement figures for 1982 graduates (see Appendix A-6 for detailed numbers and percentages) had some deviations from the general trends of recent years. Figure 4 shows that the largest percentage of graduates at all levels went to work in industry (represented in this year's survey by both industrial and utility employment). Industrial employment other than in nuclear utilities

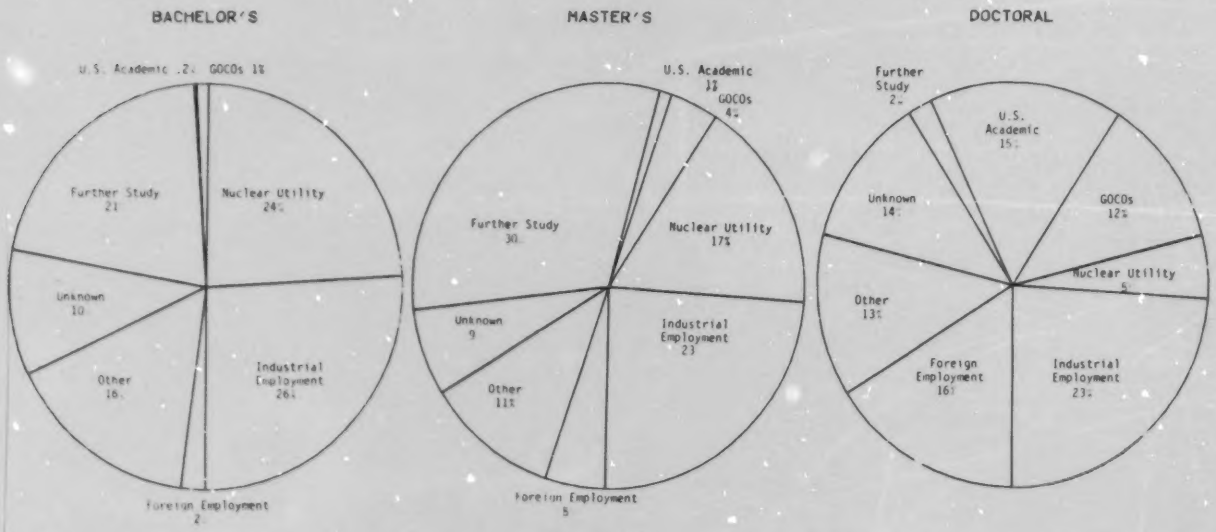


Figure 4. Placement of Nuclear Engineering Graduates by Degree Level, 1982

*"Other" includes federal, state, and local government; U.S. military service; still seeking employment; and other.

Source: U.S. Department of Energy

accounted for approximately a quarter of all graduates at all degree levels. Another one-fifth of the bachelor's and master's degree recipients but only 5 percent of those receiving Ph.D.'s went to work for nuclear utilities. Approximately one-fifth of the bachelor's recipients went on for further study, which is about the same as in recent years. One-third of master's degree holders are now pursuing advanced study, which has increased from the 1976 level of one-fourth. One explanation may be provided by a survey conducted by John Minter Associates for the *Chronicle of Higher Education,* which indicates there

was ". . . an overall increase of 9 percent in grants, loans, and other assistance administered by . . . institutions in 1981-82, compared with the previous year.[8]" The "Unknown" placement figure has been greatly reduced from about a quarter in 1981 to between 9 and 14 percent for total graduates in 1982. Perhaps nuclear engineering graduates, like science and engineering graduates in general, have been attempting to finalize their placement plans prior to graduation because they perceive, due to the general economic recession, tighter job markets and fewer job offers than in the recent past.[9]

Of interest to those concerned about decreasing doctoral degrees granted and the future of nuclear engineering academic programs is the number of those going into teaching or "U.S. Academic Employment." In 1976, the percentage of graduates who went into academic employment was 17 percent at the doctoral level. By 1981, it had dropped to 8 percent, and one prime explanation was the salary differential between academia and industry.[10] In 1982, academic employment of doctoral recipients rebounded to 15 percent, although considerably higher salaries were still being offered by industry.[11] Layoffs at the national labs and 2,000 unfilled faculty positions in all engineering in late 1981[12] suggest that nuclear engineers may have been a part of a general return of engineering researchers to universities.

## WOMEN AND MINORITIES

Female and minority participation in nuclear engineering degree programs did not increase to any great extent in 1982. Appendix A-7 gives the detailed numbers and percentages. The percentage of women enrolled or receiving degrees remained in the 5 to 8 percent range. Minority student participation remained low--generally in the 1 to 3 percent range. An exception was the increase in Asian American and Pacific Islander doctoral recipients from 2 percent to 5 percent.

The level of female participation in nuclear engineering is similar to that in all engineering. The Engineering Manpower Commission reported in 1981 that the proportion of women receiving engineering degrees attained an all-time high of 10.4 percent at the baccalaureate level, 6.9 percent at the master's level, and 3.2 percent at the doctoral level.[13] In nuclear engineering, the percentage of females receiving degrees in 1982 stood at 6 percent, 8 percent, and 5 percent at the bachelor's, master's, and Ph.D. levels, respectively.

FOREIGN NATIONALS

Figure 5 shows that again in 1982 almost half (55) of the doctoral degrees awarded went to foreign nationals, a substantial increase since the 1970s. Traditionally, participation by foreign nationals is not quite as high at other degree levels. One-fourth of the master's degree recipients (84) and 9 percent of those receiving bachelor's degrees (56) were foreign nationals. Except for the doctoral level, this is similar to the percentages of foreign nationals receiving degrees in all engineering fields for 1981: 8.9 percent at the baccalaureate level, 26 percent at the master's, but only 37.1 at the doctoral level[14] compared to 44 percent of nuclear engineering doctorates.

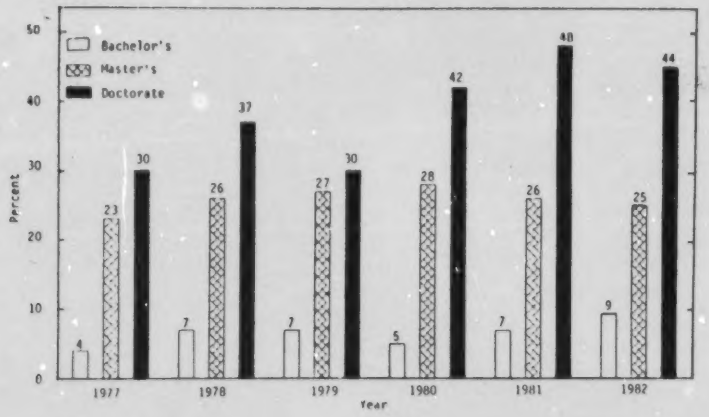


Figure 5. Nuclear Engineering Degrees Granted to Foreign Nationals, 1977-1982

Source: U.S. Department of Energy

Doctoral and undergraduate enrollment of foreign nationals in 1982 remained at 45 percent and 8 percent, respectively (see Appendix A-7). At the master's level, enrollment increased 9 percentage points (from 23 to 32 percent). Foreign nationals are most likely to be full-time students, which accounts for their larger representation in the degrees granted category than in enrollments.

Appendix A-6 shows the number of total placements that were foreign nationals. Nineteen of the 20 doctoral graduates that took employment with

foreign employers were foreign nationals. Slightly more than one-third of doctorates going into industry and five of the six going to work for utilities were foreign nationals. Almost half of the master's degree and all doctoral recipients going on for further study were foreign nationals.

## REGIONAL DISTRIBUTION

At both the graduate and undergraduate levels, enrollments and degrees were highest in the East North-Central region (see Appendix A-10). Of the nine survey regions, two, the East North-Central and Middle Atlantic regions, accounted for 43 percent of the total enrollment and 35 percent of the reporting institutions. Undergraduate enrollment was highest at Pennsylvania State University with 86 students. The Massachusetts Institute of Technology (MIT) enrolled the most graduate students in 1982 with 162. Three schools (MIT, the University of Michigan, and the University of Wisconsin-Madison) together had 21 percent of the graduate enrollments.

The East North-Central region awarded the most degrees at each degree level--followed by the Mountain region at the bachelor's level, the Middle Atlantic region at the master's level, and the New England region at the doctoral level.

The University of Illinois-Urbana awarded the most bachelor degrees (42); MIT the largest number of master's degrees (25) and the largest number of doctorates (19). Eight schools awarded 30 percent of the nuclear engineering degrees in 1982: the Massachusetts Institute of Technology, the University of Illinois-Urbana, Pennsylvania State University, Brigham Young University, the University of Wisconsin-Madison, the University of Michigan, the University of Cincinnati, and Rensselaer Polytechnic Institute.

NOTES

1. U.S. Department of Energy, Office of Energy Research, Manpower Assessment Program, *Energy-Related Manpower, 1982*, DOE/ER-0154 (Washington, D.C.: December 1982); National Research Council, *Personnel Supply and Demand Issues in the Nuclear Power Industry* (Washington, D.C.: December 1981).

2. U.S. Atomic Energy Commission, Division of Labor Relations, *Nuclear Engineering Enrollments and Degrees*, Wash-1228(74), (Washington, D.C.: July 1974).

3. National Research Council, *Personnel Supply and Demand Issues in the Nuclear Power Industry*.

4. Ibid.

5. Scientific Manpower Commission, *Manpower Comments*, vol. 20, no. 1 (January-February 1983), p. 6.

6. National Research Council, *Personnel Supply and Demand Issues in the Nuclear Power Industry* (December 1981).

7. Institute of Nuclear Power Operations, *A Survey of Occupational Employment and Training in the Nuclear Power Industry*, Manpower Study Series, Report No.1 (Atlanta, Georgia: September 1981).

8. Scientific Manpower Commission, *Manpower Comments*, vol. 20, no. 1 (January-February 1983), p. 32.

9. Scientific Manpower Commission, *Manpower Comments*, vol. 19, no. 10 (December 1982), p. 16; vol. 20, no. 1 (January-February 1983), p. 4.

10. Scientific Manpower Commission, *Manpower Comments*, vol. 18, no. 2 (March 1981), p. 4.

11. Scientific Manpower Commission, *Manpower Comments*, vol. 19, no. 10 (December 1982), p. 16.

12. National Research Council, *Personnel Supply and Demand Issues in the Nuclear Power Industry*.

13. Scientific Manpower Commission, *Manpower Comments*, vol. 18, no. 10 (December 1981), p. 17.

14. Ibid.

APPENDIXES

Appendix A. Statistical Tables
Appendix B. Addresses
Appendix C. Survey Materials

## APPENDIX A-1. NUCLEAR ENGINEERING DEGREES GRANTED 1972-1982 BY INSTITUTION

B = Bachelor's
M = Master's
D = Doctorate

| State and Institution (July-June) | 1971-1972 | | | 1972-1973 | | | 1973-1974 | | | 1974-1975 | | | 1975-1976 | | | 1976-1977 | | | 1977-1978 | | | 1978-1979 | | | 1979-1980 | | | 1980-1981 | | | 1981-1982 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D |
| **ALABAMA** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tuskegee Institute | - | - | - | - | 2 | - | - | 5 | - | - | 3 | - | - | - | - | - | 1 | - | - | 1 | - | - | 1 | - | - | - | - | - | - | - | 2 | - |
| **ARIZONA** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Arizona State University | 5 | 2 | - | 5 | 1 | - | 8 | - | - | 10 | 1 | - | 15 | - | - | 16 | 1 | - | 58 | 1 | - | 26 | 1 | - | 10 | - | - | 11 | - | - | 10 | 1 | - |
| University of Arizona | 8 | 2 | - | 6 | 4 | 3 | 15 | 7 | 3 | 12 | 2 | 2 | 14 | 6 | - | 8 | 3 | 3 | 16 | 5 | 2 | 17 | 8 | 1 | 11 | 6 | 2 | 14 | 10 | 1 | 17 | 8 | 4 |
| **CALIFORNIA** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of California, Berkeley | 3 | 28 | 10 | - | 9 | 5 | - | 17 | 8 | - | 23 | 8 | - | 13 | 10 | - | 20 | 5 | - | 20 | 4 | 20 | 19 | 8 | 17 | 17 | 8 | - | 10 | 7 | - | 14 | 6 |
| University of California, Davis | - | - | 2 | PROGRAM DISCONTINUED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of California, Los Angeles | - | 9 | 6 | 9 | - | 4 | - | 5 | 5 | - | 5 | 1 | - | 4 | 4 | - | 4 | 5 | 8* | 7 | 1 | 7 | 8 | 4 | 7 | 8 | 1 | 7* | 8* | 1* | 4 | 11 | 4 |
| Stanford University | - | 8 | 1 | - | 5 | 2 | - | 7 | 5 | - | 8 | 3 | - | 3 | 2 | - | 6 | 1 | - | 3* | 1 | - | - | - | - | 1 | - | - | 2 | - | - | - | 2 |
| University of California, Santa Barbara | 8 | 1 | - | 9 | - | - | 10 | 2 | - | 4 | 1 | 1 | 7 | 1 | 1 | 9 | 1 | - | 10 | 2 | - | 11 | 2 | - | 13 | 2 | - | 12 | 4 | - | 11 | 5 | 1 |
| San Jose State University | 7 | - | - | 8 | - | - | 2 | 1 | - | 3 | 1 | - | 1 | - | - | 3 | 1 | - | - | - | - | - | - | - | PROGRAM DISCONTINUED | | | | | | | | |
| California State University, Northridge | 7 | 2 | - | 7 | 1 | - | 8 | 2 | - | 7 | 5 | - | 11 | - | - | 4 | - | - | - | - | - | - | - | - | INACTIVE | | | - | - | - | 4 | 1 | - |
| California Institute of Technology | - | - | 2* | - | - | 1 | - | - | 2 | - | 2 | 3 | PROGRAM DISCONTINUED | | | | | | | | | | | | | | | | | | | | |
| **COLORADO** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Colorado State University | - | 1 | - | - | 2 | 1 | - | - | 1 | - | 1 | - | - | 2 | - | - | 1 | - | - | - | - | - | - | 1 | - | - | - | - | - | - | - | 1 | - |
| University of Colorado | | | | | | | | | | | | | | | | | | | | | | | | | | | | - | - | 1 | 12 | - | - |
| **CONNECTICUT** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hartford Graduate Center | - | 1 | - | - | 2 | - | - | 2 | - | - | 3 | - | - | 5 | - | - | 3 | - | PROGRAM DISCONTINUED | | | | | | | | | | | | | | | |
| U.S. Coast Guard Academy | - | - | - | 7 | - | - | 4 | - | - | 6 | - | - | PROGRAM DISCONTINUED | | | | | | | | | | | | | | | | | | | | |
| **DISTRICT OF COLUMBIA** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Catholic University of America | - | - | 2 | - | 5 | 2 | - | 10 | 2 | 1 | 10 | 1 | 2 | 9 | - | 1 | 9 | - | - | - | - | - | 4 | 1 | - | 5 | - | - | 4 | 1 | - | 2 | 1 |
| Howard University | - | 1 | - | 11 | - | - | 7* | 3 | - | - | 3 | - | - | 9 | - | - | 2 | - | - | 2 | - | - | 3 | - | - | 3 | - | - | 2 | - | - | 2 | - |

*Estimated.

APPENDIX A-1. (Continued)

| State and Institution | July-June- | 1971 1972 | | | 1972 1973 | | | 1973 1974 | | | 1974 1975 | | | 1975 1976 | | | 1976 1977 | | | 1977 1978 | | | 1978 1979 | | | 1979 1980 | | | 1980 1981 | | | 1981 1982 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D |
| FLORIDA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Florida | | 11 | 15 | 1 | 10 | 13 | 3 | 14 | 12 | 1 | 23 | 14 | 2 | 28 | 13 | 3 | 42 | 15 | 5 | 37 | 13 | 3 | 32 | 14 | 2 | 22 | 12 | 1 | 19 | 4 | 1 | 16 | 10 | 2 |
| GEORGIA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Georgia Institute of Technology | | - | 32 | 7 | - | 46 | 6 | 2 | 27 | 3 | 6 | 25 | 1 | 27 | 24 | 4 | 21 | 22 | 2 | 28 | 17 | 5 | 28 | 25 | 6 | 28 | 6 | 5 | 16 | 8 | 4 | 16 | 6 | 1 |
| IDAHO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Idaho | | 8 | 3 | - | 11 | 5 | - | 9 | 7 | - | 7 | 1 | - | 9 | 5 | - | 4 | 3 | - | 5 | 4 | - | 4 | 4 | - | 3 | 8 | - | 5 | 7 | - | 12 | - | - |
| Idaho State University | | 6 | 2 | - | 7 | 1 | - | 9 | 4 | - | 2 | 6 | - | 7 | 1 | - | 8 | - | - | 13 | 4 | - | 5 | 4 | - | 4 | - | - | 5 | 1 | - | 6 | 3 | - |
| ILLINOIS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Northwestern University | | 3 | 1 | 1 | 5 | 6 | 3 | 1 | 2 | 1 | 4 | 7 | 1 | 3 | 6 | 1 | 3 | 7 | 1 | - | 3 | 1 | 1 | 1 | 2 | 6 | 3 | 2 | 7 | 6 | 3 | 2 | 2 | 1 |
| University of Illinois | | - | 23 | 7 | - | 25 | 3 | - | 22 | 7 | - | 31 | 3 | 1 | 41 | 12 | 10 | 24 | 6 | 12 | 18 | 3 | 10 | 26 | 8 | 24 | 13 | 16 | 24 | 8 | 10 | 42 | 24 | 12 |
| INDIANA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Purdue University | | 8 | 12 | 4 | 15 | 9 | 3 | 6 | 10 | 2 | 12 | 10 | 1 | 11 | 12 | 2 | 17 | 28 | 5 | 12 | 11 | 3 | 20 | 8 | 6 | 28 | 7 | - | 18 | 3 | 3 | 10 | 8 | 3 |
| University of Notre Dame | | 2 | - | - | 6 | - | - | 6 | 2 | - | 5 | - | 1 | 2 | 2 | - | 4 | - | - | 4 | - | - | 7 | - | - | 13 | - | - | 12 | - | - | 11 | - | - |
| IOWA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Iowa State University | | - | 14 | 7 | - | 5 | 4 | - | 8 | 2 | - | 8 | 5 | - | 3 | 2 | - | 12 | 2 | - | 5 | 4 | 2 | 4 | - | 15 | 1 | 2 | 13 | 9 | 4 | 14 | 3 | 2 |
| KANSAS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kansas State University | | 17 | 11 | 6 | 21 | 8 | 6 | 17 | 5 | 3 | 18 | 5 | 3 | 10 | 4 | 4 | 20 | 8 | - | 17 | 4 | 2 | 29 | 9 | 4 | 14 | 5 | 4 | 13 | 9 | 3 | 13 | 4 | 1 |
| KENTUCKY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Kentucky | | - | 3 | - | - | 2 | - | - | 1 | - | - | 2 | - | - | 2 | - | - | 4 | 2 | - | 2 | 1 | - | 2 | - | 1 | 1 | - | 3 | 1 | - | 6 | 1 | - |
| LOUISIANA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Louisiana State University | | - | 3 | - | 5 | 4 | - | 5 | 8 | - | 4 | 4 | - | 3 | 3 | - | 3 | 5 | - | 2 | 5 | - | - | 4 | - | - | 2 | - | - | 4 | - | - | 2 | - |
| Louisiana Tech University | | FIRST DEGREE REPORTED IN 1976-1977 | | | | | | | | | | | | | | | 11 | 1 | - | - | - | - | - | - | - | PROGRAM DISCONTINUED | | | | | | | | |

APPENDIX A-1. (Continued)

| State and Institution (July-June) | 1971 1972 | | | 1972 1973 | | | 1973 1974 | | | 1974 1975 | | | 1975 1976 | | | 1976 1977 | | | 1977 1978 | | | 1978 1979 | | | 1979 1980 | | | 1980 1981 | | | 1981 1982 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D |
| **MAINE** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Maine | 2* | - | - | 2* | - | - | 2* | - | - | 2 | - | - | 2 | - | - | 5 | - | - | 5 | - | - | 3* | - | - | 2 | 1 | - | 5 | 1 | - | - | - | - |
| **MARYLAND** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| U.S. Naval Academy | 5 | - | - | 8 | - | - | 10 | - | - | 12 | - | - | 15 | - | - | 15 | - | - | 15 | - | - | 10 | - | - | 8 | - | - | 8 | - | - | 28 | - | - |
| University of Maryland | 6 | 4 | 6 | 16 | 2 | - | 5 | 5 | 2 | 4 | 4 | 3 | 9 | 4 | 4 | 10 | 8 | 5 | 13 | 5 | 3 | 17 | 12 | - | 14 | 6 | 1 | 10 | 2 | 3 | 10 | - | 5 |
| **MASSACHUSETTS** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Massachusetts Institute of Technology | - | 31 | 21 | - | 34 | 14 | - | 44 | 8 | - | 37 | 7 | - | 37 | 23 | 2 | 43 | 23 | - | 63 | 20 | 7 | 40 | 15 | 12 | 40 | 19 | 10 | 34 | 20 | - | 25 | 19 |
| University of Lowell | 37 | 2 | - | 40 | 1 | - | 27 | 6 | - | 27 | 6 | - | 23 | 7 | - | 39 | 9 | - | 23 | 5 | - | 24 | 1 | - | 12 | 2 | - | 12 | 4 | - | 14 | 3 | - |
| Worcester Polytechnic Institute | 15 | - | - | 12* | - | - | 17 | - | - | 14* | - | - | 13* | - | - | 17* | - | - | 12 | - | - | 12* | 1 | - | 12 | - | - | 15 | 1 | - | 4 | - | - |
| **MICHIGAN** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Michigan Technical University | | | | | | | FIRST DEGREE REPORTED IN 1976-1977 | | | | | | | | | 15 | 1 | - | 15 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| University of Michigan | 20 | 9 | 15 | 25 | 18 | 6 | 23 | 16 | 18 | 20 | 21 | 9 | 44 | 32 | 13 | 31 | 21 | 7 | 27 | 28 | 10 | 29 | 22 | 8 | 27 | 26 | 6 | 25 | 21 | 16 | 21 | 16 | 10 |
| **MISSISSIPPI** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mississippi State University | 10 | 1 | - | 11 | 2 | - | 11 | - | - | 14 | 1 | - | 14 | 2 | - | 14 | - | - | 10 | 2 | - | 16 | 2 | - | 9 | 3 | - | 5 | 1 | - | 15 | 1 | - |
| **MISSOURI** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Missouri, Columbia | 13* | 7 | 2 | 32* | 11 | 4 | 44* | 7 | - | - | 5 | 1 | - | 5 | 2 | - | 7 | 3 | - | 11 | 7 | - | 10 | 4 | - | 5 | 3 | - | 11 | 8 | - | 4 | 2 |
| University of Missouri, Rolla | 8 | 5 | 1 | 11 | 6 | 1 | 13 | 7 | - | 14 | 5 | 1 | 18 | 2 | 3 | 15 | 8 | - | 6 | 3 | 1 | 12 | 1 | - | 21 | 1 | - | 5 | - | 1 | 7 | 1 | 1 |
| **NEBRASKA** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Nebraska | | | | | | | | | | | | | | | | | | | | | | | | | | | | 6 | - | - | 4 | - | - |
| **NEVADA** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Nevada, Reno | 4 | - | - | 2 | - | - | 1 | - | - | 1 | 1 | - | PROGRAM DISCONTINUED | | | | | | | | | | | | | | | | | | | | |

*Estimated

APPENDIX A-1. (Continued)

| State and Institution | July-June- 1971-1972 B | M | D | 1972-1973 B | M | D | 1973-1974 B | M | D | 1974-1975 B | M | D | 1975-1976 B | M | D | 1976-1977 B | M | D | 1977-1978 B | M | D | 1978-1979 B | M | D | 1979-1980 B | M | D | 1980-1981 B | M | D | 1981-1982 B | M | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NEW JERSEY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| New Jersey Institute of Technology | 17 | - | - | 17 | - | - | 17 | - | - | 17 | - | - | 11 | - | - | 8 | 9 | - | 13 | - | - | 13 | - | - | 12 | - | - | 13 | - | - | 18 | 1 | - |
| Stevens Institute of Technology | | | | | | | | | | | | | PROGRAM STARTED IN 1976 | | | 2 | - | - | 1 | - | - | - | - | - | 0 | - | - | 2 | 1 | - | | | |
| NEW MEXICO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of New Mexico | 3 | 9 | 2 | 4 | 12 | 1 | - | 6 | 2 | - | 17 | 2 | - | 9 | 2 | - | 11 | 2 | - | 6 | - | - | 10 | 6 | - | 10 | 3 | 4 | 8 | 1 | 2 | 6 | - |
| NEW YORK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Manhattan College | 19 | - | - | 30 | - | - | 23 | - | - | 22 | - | - | 17 | - | - | 19 | - | - | 26 | - | - | 41 | 10 | - | 32 | - | - | 19 | - | - | - | - | - |
| State University of New York, Buffalo | 3 | 2 | - | 9 | - | - | 4 | 2 | - | 6 | 7 | - | 4 | 5 | - | 7 | 9 | 2 | 10 | 7 | 1 | 9 | 3 | 1 | 8 | 3 | - | 5 | - | - | 6 | 1 | - |
| State University of New York, Maritime | 10* | - | - | 10* | - | - | 10 | - | - | 19 | - | - | 9 | - | - | 16 | - | - | 17 | - | - | 11 | - | - | 6 | - | - | 9 | - | - | 7 | - | - |
| Polytechnic Institute of New York | 8 | 11 | 1 | 6 | 13 | 2 | 4* | 15* | 2* | - | 7 | - | - | - | - | 6 | 32 | 1 | 2 | 18 | 1 | 10 | 21 | - | 4 | 10 | - | 4 | 18 | - | - | 10 | 1 |
| Cornell University | - | 9 | 2 | - | 6 | 2 | - | 13 | 1 | - | 6 | 1 | - | 10 | 3 | - | 9 | - | - | 7 | 2 | - | 4 | 1 | - | 1 | 3 | - | 3 | 1 | - | 4 | - |
| Columbia University | 3 | 8 | 4 | 8 | 6 | 1 | 16 | 7 | 4 | 5 | 7 | 3 | 7 | 4 | 1 | 8 | 13 | 2 | 9 | 10 | 3 | 9 | 9 | 1 | 3 | 6 | 2 | 3 | 4 | 1 | 2 | 3 | 1 |
| Clarkson College of Technology | | | | | | | | | | | | | 60 | 2 | - | 53 | 2 | - | 27 | - | - | 18 | - | - | 11 | 1 | - | 13 | - | - | 10 | - | - |
| Rensselaer Polytechnic Institute | 20 | 13 | 4 | 17 | 14 | 1 | 13 | 19 | 7 | 24 | 15 | 5 | 43 | 14 | 3 | 35 | 21 | 7 | 35 | 21 | 2 | 23 | 22 | 3 | 36 | 19 | 6 | 20 | 19 | 6 | 11 | 23 | 5 |
| Long Island U-CW Post College | PROGRAM DISCONTINUED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NORTH CAROLINA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| North Carolina State University | 21 | 10 | 3 | 26 | 13 | 3 | 32 | 4 | 5 | 21 | 5 | 3 | 23 | 3 | 2 | 19 | 6 | - | 22 | 8 | 2 | 17 | 7 | 2 | 12 | 7 | 3 | 11 | 3 | 3 | 16 | 4 | 5 |
| OHIO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Cincinnati | 2 | 14 | 4 | 2 | 7 | 3 | 1 | 3 | 1 | 6 | 5 | 2 | 7 | 16 | 4 | 15 | 10 | 4 | 13 | 6 | 5 | 14 | 4 | 9 | 12 | 15 | 2 | 21 | 8 | 2 | 31 | 5 | 2 |
| Case Western Reserve University | - | 2 | 2 | - | 2 | 1 | 4 | - | 2 | - | 2 | - | - | 1 | 1 | - | 2 | - | - | 3 | - | - | 1 | - | - | - | - | - | - | - | INACTIVE | | |
| Air Force Institute of Technology | - | 11 | 3 | - | 6 | 1 | - | 10 | 1 | - | 13 | 1 | - | 6 | 1 | - | 8 | - | - | 11 | - | - | 15 | 1 | - | 5 | 2 | - | 12 | 2 | - | 13 | - |
| Ohio State University | 5 | 6 | 2 | 5 | 11 | 6 | 6 | 10 | 3 | 6 | - | 5 | 8 | 8 | 6 | 12 | 10 | 1 | 14 | 9 | 1 | 16 | 9 | 1 | - | 9 | 1 | 9 | 4 | - | - | 11 | 2 |
| Youngstown State Univ. | | | | PROGRAM STARTED IN 1975 | | | | | | 2 | - | - | 3 | - | - | 3 | - | - | 4 | - | - | 3 | - | - | 4 | - | - | 6 | - | - | 24 | - | - |

*Estimated.

APPENDIX A-1. (Continued)

| State and Institution | July-June- | 1971-1972 | | | 1972-1973 | | | 1973-1974 | | | 1974-1975 | | | 1975-1976 | | | 1976-1977 | | | 1977-1978 | | | 1978-1979 | | | 1979-1980 | | | 1980-1981 | | | 1981-1982 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D |
| OKLAHOMA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oklahoma State University | | - | - | 1 | - | - | - | PROGRAM DISCONTINUED | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Oklahoma | | 5 | 3 | - | 3 | 1 | 2 | 3 | 1 | 1 | 10 | 1 | - | 8 | 2 | - | 8 | 3 | - | 11 | 1 | - | 9 | - | - | 9 | - | - | 9 | 2 | 1 | 5 | 1 | 1 |
| OREGON | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oregon State University | | 13 | 2 | - | 15 | 2 | - | 30 | 5 | 1 | 16 | 4 | 1 | 31 | 1 | 2 | 34 | 9 | 1 | 26 | 2 | - | 27 | 5 | 3 | 21 | 3 | - | 22 | 5 | 1 | 10 | 7 | 1 |
| PENNSYLVANIA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Pennsylvania | | PROGRAM STARTED IN 1974-1975 | | | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 1 | - | INACTIVE | | | | | | | | |
| Carnegie-Mellon University | | - | 14 | 5 | - | 17 | 8 | - | 11 | 2 | - | 14 | 2 | - | 12 | 2 | - | 15 | 2 | - | 5 | 1 | 1 | 13 | - | - | 8 | 1 | - | 3 | 3 | - | 2 | - |
| Pennsylvania State University | | 12 | 16 | 3 | 21 | 12 | 3 | 19 | 21 | 2 | 15 | 14 | - | 29 | 16 | 7 | 42 | 9 | 3 | 36 | 13 | 1 | 44 | 15 | 1 | 40 | 10 | 1 | 31 | 11 | 3 | 38 | 11 | 5 |
| PUERTO RICO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Puerto Rico | | - | 5 | - | - | 5 | - | - | 5 | - | - | 5 | - | - | 5 | - | - | - | - | - | - | - | INACTIVE | | | INACTIVE | | | INACTIVE | | | PROGRAM DISCONTINUED | | |
| RHODE ISLAND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Rhode Island | | - | - | - | - | 1 | 1 | - | 1 | - | - | 2 | - | - | - | - | - | 1 | - | - | 1 | - | - | - | - | PROGRAM DISCONTINUED | | | | | | | | |
| SOUTH DAKOTA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| South Dakota State University | | 2 | - | - | 2 | - | - | 1 | - | - | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | INACTIVE | | | | | |
| TENNESSEE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tennessee Technological University | | 7 | - | - | 6 | - | - | 9 | - | - | 8 | - | - | 8 | - | - | 2 | - | - | 3 | - | - | 4 | 2 | - | 6 | - | - | 3 | - | - | 3 | - | - |
| University of Tennessee | | 24 | 3 | 3 | 12 | 5 | 2 | 16 | 4 | 1 | 22 | 8 | 1 | 11 | 5 | 7 | 22 | 10 | 6 | 24 | 10 | 1 | 20 | 9 | 3 | 13 | 3 | 5 | 11 | - | 4 | 12 | 5 | 2 |
| Memphis State University | | 15 | 4 | - | 18 | 6 | - | 19 | 3 | - | 15 | 10 | - | - | - | - | 1 | - | - | INACTIVE | | | | | | | | | | | | 2 | - | - |
| Vanderbilt University | | 10 | - | - | 10 | - | - | 12* | - | - | PROGRAM DISCONTINUED | | | | | | | | | | | | | | | | | | | | | | | |
| TEXAS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Texas, Austin | | 20 | 5 | 1 | 25 | 4 | 3 | 10 | 3 | 3 | 15 | 2 | 1 | - | 3 | 2 | 25 | 6 | 1 | 25 | 6 | 1 | - | 8 | 1 | 20 | 6 | 1 | - | 4 | - | - | 2 | 2 |
| Texas A&M University | | 20 | 5 | 1 | 32 | 15 | 2 | 31 | 9 | 1 | 20 | 9 | - | 36 | 2 | 2 | 37 | 7 | 2 | 54 | 17 | 4 | 42 | 8 | 3 | 31 | 3 | 2 | 40 | 9 | - | 23 | 8 | 3 |

*Estimated.

APPENDIX A-1. (Continued)

| State and Institution | July-June- | 1971 1972 | | | 1972 1973 | | | 1973 1974 | | | 1974 1975 | | | 1975 1976 | | | 1976 1977 | | | 1977 1978 | | | 1978 1979 | | | 1979 1980 | | | 1980 1981 | | | 1981 1982 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D | B | M | D |
| UTAH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Utah State University. . . . | | 7 | 2 | - | 12 | 6 | - | 8 | 2 | - | 4 | 2 | - | 6 | 2 | - | 4 | 1 | - | 16 | 5 | - | 20 | 3 | - | - | - | - | 30 | 4 | - | 25 | 6 | - |
| Brigham Young University . . | | FIRST DEGREE AWARDED IN 1974-1975 | | | | | | - | 3 | - | 4 | 2 | - | 5 | 2 | 1 | 7 | - | 2 | 3 | 1 | 1 | 7 | - | - | 10 | - | - | 38 | 5 | - | | | |
| University of Utah . . . . . | | 22 | 5 | - | 25* | 7 | - | 20* | 2 | 1 | 12 | 3 | - | - | 7 | - | - | 3 | - | - | 1 | - | 24 | 2 | - | 23 | 1 | - | 26 | 2 | - | 28 | 3 | 2 |
| VIRGINIA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Virginia Polytechnic Institute . . . . . | | 26 | 5 | 1 | 31 | 13 | 1 | 33 | 6 | - | 18 | 10 | 2 | 24 | 14 | - | 30 | 8 | 1 | 23 | 13 | 1 | 24 | 8 | - | - | 5 | 1 | 17 | 2 | 1 | 2 | 2 | 3 |
| University of Virginia . . . | | 32 | 11 | 3 | 30 | 11 | 5 | 15 | 18 | 4 | 28 | 8 | 9 | 24 | 24 | 2 | 16 | 29 | 1 | 27 | 26 | 3 | 17 | 10 | 2 | 23 | 14 | 1 | 11 | 5 | 5 | 9 | 15 | 2 |
| WASHINGTON | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Washington . . | | - | 10 | 1 | - | 15 | 3 | - | 16 | 5 | - | 16 | 2 | - | 11 | 4 | - | 12 | 2 | - | 14 | - | - | 11 | 2 | - | 15 | 3 | - | 7 | 5 | - | 9 | 1 |
| Washington State University. | | 3 | 2 | - | 4 | - | - | 7 | - | - | - | - | - | PROGRAM DISCONTINUED | | | | | | | | | | | | | | | | | | | | |
| WEST VIRGINIA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| West Virginia University . . | | - | - | 1 | - | - | - | PROGRAM DISCONTINUED | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WISCONSIN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Wisconsin. . . | | 18 | 15 | 3 | 20 | 14 | 6 | 22 | 15 | 6 | 21 | 12 | 4 | 21 | 26 | 4 | 21 | 19 | 7 | 30 | 22 | 8 | 25 | 17 | 6 | 16 | 21 | 9 | 15 | 7 | 5 | 21 | 21 | 11 |
| WYOMING | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| University of Wyoming. . . . | | - | 1 | - | - | - | - | PROGRAM DISCONTINUED | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTALS | | 561 | 436 | 151 | 701 | 453 | 128 | 661 | 465 | 128 | 565 | 468 | 101 | 683 | 468 | 145 | 795 | 554 | 121 | 824 | 487 | 110 | 794 | 463 | 111 | 695 | 365 | 116 | 642 | 315 | 131 | 654 | 339 | 126 |

*Estimated

Note: Some of the numbers shown have been changed from previously published reports, as historical data has been collected and reported.

APPENDIX A-2

ENROLLMENT OF FULL-TIME AND PART-TIME STUDENTS IN NUCLEAR ENGINEERING
BY EDUCATIONAL LEVEL, FALL 1972 THROUGH FALL 1982

| | Undergraduate | | | | | | Graduate | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3rd Year | | 4th Year | | 5th Year | | Master's Candidates | | | Doctoral Candidates | | |
| Year | FT | PT | FT | PT | FT | PT | FT | PT | Total | FT | PT | Total |
| 1972 | 628 | 5 | 662 | 5 | 16 | - | 717 | 194 | 911 | 509 | 150 | 659 |
| 1973 | 603 | 7 | 670 | 30 | 22 | - | 766 | 252 | 1,018 | 504 | 118 | 622 |
| 1974 | 687 | 4 | 707 | 12 | 35 | - | 823 | 401 | 1,224 | 475 | 127 | 602 |
| 1975 | 851 | 18 | 841 | 23 | 78 | 2 | 958 | 456 | 1,414 | 550 | 115 | 665 |
| 1976 | 913 | 31 | 925 | 24 | 32 | 1 | 1,015 | 314 | 1,329 | 486 | 97 | 583 |
| 1977 | 1,018 | 4 | 1,012 | 8 | 104 | 14 | 809 | 359 | 1,168 | 481 | 96 | 577 |
| 1978 | 885 | 13 | 1,003 | 7 | 173 | 3 | 818 | 246 | 1,064 | 500 | 85 | 585 |
| 1979 | 797 | 10 | 926 | 7 | 132 | 10 | 704 | 254 | 958 | 541 | 89 | 630 |
| 1980* | 737 | 6 | 770 | 16 | N/A | N/A | 649 | 217 | 866 | 550 | 69 | 619 |
| 1981 | 710 | 14 | 806 | 32 | N/A | N/A | 624 | 252 | 876 | 527 | 50 | 577 |
| 1982 | 794 | 6 | 997 | 8 | N/A | N/A | 689 | 257 | 946 | 536 | 70 | 606 |

*The reporting form was changed to reflect "juniors and seniors," respectively, in 1980 by deleting 5th year as a separate category on the survey form.

N/A = Not applicable.

Source: U.S. Department of Energy.

APPENDIX A-3

UNDERGRADUATE, MASTER'S, AND DOCTORAL ENROLLMENTS AND DEGREES GRANTED IN NUCLEAR ENGINEERING OR OTHER ENGINEERING FIELDS WITH NUCLEAR OPTION, 1979-1982
(percent distribution)

| | Enrollments | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Undergraduate | | | | Master's Candidates | | | | Doctoral Candidates | | | |
| Nuclear Field | 1979 | 1980 | 1981 | 1982 | 1979 | 1980 | 1981 | 1982 | 1979 | 1980 | 1981 | 1982 |
| Nuclear engineering | 72 | 71 | 68 | 63 | 93 | 94 | 92 | 94 | 97 | 97 | 91 | 95 |
| Chemical | 4 | 4 | 5 | 4 | * | * | 0 | 0 | * | * | 0 | 1 |
| Engineering science | 3 | 5 | 4 | 4 | 1 | * | 1 | 1 | * | 0 | 0 | 1 |
| Electrical | 5 | 4 | 3 | 5 | 0 | * | 0 | 0 | 0 | 0 | 0 | * |
| Mechanical | 12 | 12 | 17 | 15 | 6 | 6 | 6 | 4 | 2 | 2 | 7 | 3 |
| Other | 4 | 4 | 3 | 9 | 0 | * | 0 | * | 1 | * | 2 | * |

| | Degrees Granted | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bachelor's | | | | Master's | | | | Doctoral | | | |
| Nuclear Field | 1979 | 1980 | 1981 | 1982 | 1979 | 1980 | 1981 | 1982 | 1979 | 1980 | 1981 | 1982 |
| Nuclear engineering | 77 | 76 | 65 | 62 | 94 | 95 | 92 | 94 | 96 | 99 | 96 | 95 |
| Chemical | 1 | 5 | 5 | 10 | * | * | 0 | 1 | 1 | 0 | 0 | 1 |
| Engineering science | 2 | 4 | 3 | 5 | * | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| Electrical | 4 | 4 | 2 | 3 | * | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mechanical | 12 | 11 | 21 | 11 | 4 | 5 | 8 | 4 | 3 | 1 | 2 | 4 |
| Other | 3 | 1 | 4 | 9 | 0 | * | 0 | 0 | 0 | 0 | 2 | 0 |

*Less than 0.5 percent.

Note: Percentages of enrollments and degrees granted are based on total nuclear-related enrollments and degrees by all institutions reporting that year. Percentages may not add to 100 percent because of rounding.

Source: U.S. Department of Energy.

APPENDIX A-4

NUCLEAR ENGINEERING ENROLLMENTS AND DEGREES
IN SUBFIELDS BY INSTITUTION, 1982

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND SUBFIELD | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 198 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PH |
| ALABAMA | | | | | | | | | | | |
| TUSKEGEE INSTITUTE | | | | | | | | | | | |
| NUCLEAR ENGINEERING | | | | | 1 | | | | | 2 | |
| ARIZONA | | | | | | | | | | | |
| ARIZONA STATE UNIVERSITY | | | | | | | | | | | |
| CHEMICAL, WITH NUCLEAR OPTION | 1 | | 1 | | | | | | | | |
| ENGINEERING SCIENCE, WITH NUCLEAR OPTION | 8 | | 8 | | 2 | | | | 10 | 1 | |
| ELECTRICAL, WITH NUCLEAR OPTION | 2 | | | | | | | | | | |
| MECHANICAL, WITH NUCLEAR OPTION | 4 | | 2 | | | | | | | | |
| UNIVERSITY OF ARIZONA | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 16 | | 16 | | 9 | 8 | 8 | 6 | 17 | 8 | |
| CALIFORNIA | | | | | | | | | | | |
| CALIFORNIA STATE UNIVERSITY, NORTHRIDGE | | | | | | | | | | | |
| ENGINEERING SCIENCE, WITH NUCLEAR OPTION | | | 8 | 2 | | 2 | | | 4 | 1 | |
| STANFORD UNIVERSITY | | | | | | | | | | | |
| MECHANICAL, WITH NUCLEAR OPTION | | | | | | | 1 | | | | |
| CIVIL ENGINEERING, WITH NUCLEAR OPTION | | | | | | | 1 | | | | |

APPENDIX A-4 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND SUBFIELD | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| CALIFORNIA (CONTINUED) | | | | | | | | | | | |
| UNIVERSITY OF CALIFORNIA, BERKELEY | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 12 | | 20 | | 34 | | 17 | | | 14 | 6 |
| UNIVERSITY OF CALIFORNIA, LOS ANGELES | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 1 | | 3 | | 34 | | 34 | | 4 | 11 | 4 |
| UNIVERSITY OF CALIFORNIA, SANTA BARBARA | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 7 | | 14 | | 18 | | | | 11 | 5 | |
| CHEMICAL, WITH NUCLEAR OPTION | | | | | | | 5 | | | | 1 |
| COLORADO | | | | | | | | | | | |
| COLORADO STATE UNIVERSITY | | | | | | | | | | | |
| NUCLEAR ENGINEERING | | | | | | | | | | 1 | |
| UNIVERSITY OF COLORADO, BOULDER | | | | | | | | | | | |
| ENGINEERING PHYSICS, WITH NUCLEAR OPTION | 14 | | 15 | | | | | | 12 | | |
| DISTRICT OF COLUMBIA | | | | | | | | | | | |
| CATHOLIC UNIVERSITY | | | | | | | | | | | |
| MECHANICAL, WITH NUCLEAR OPTION | | | 3 | | | 8 | | 3 | | 2 | 1 |

APPENDIX A-4 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND SUBFIELD | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| DISTRICT OF COLUMBIA (CONTINUED) | | | | | | | | | | | |
| HOWARD UNIVERSITY | | | | | | | | | | | |
| MECHANICAL, WITH NUCLEAR OPTION | | | | | 4 | | | | | 2 | |
| FLORIDA | | | | | | | | | | | |
| UNIVERSITY OF FLORIDA, GAINESVILLE | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 33 | | 43 | | 11 | 2 | 3 | 3 | 16 | 10 | 2 |
| GEORGIA | | | | | | | | | | | |
| GEORGIA INSTITUTE OF TECHNOLOGY | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 10 | | 22 | | 13 | 17 | 3 | | 16 | 6 | 1 |
| IDAHO | | | | | | | | | | | |
| IDAHO STATE UNIVERSITY | | | | | | | | | | | |
| ENGINEERING SCIENCE, WITH NUCLEAR OPTION | | 2 | 12 | | | 6 | | | 6 | | |
| UNIVERSITY OF IDAHO | | | | | | | | | | | |
| NUCLEAR ENGINEERING | | | | | | 24 | | | | 3 | |
| CHEMICAL, WITH NUCLEAR OPTION | 1 | | 1 | | | | | | 1 | | |
| ELECTRICAL, WITH NUCLEAR OPTION | 1 | | | | | | | | | | |
| MECHANICAL, WITH NUCLEAR OPTION | 10 | | 11 | | | | | | 11 | | |

APPENDIX A-4 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND SUBFIELD | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| ILLINOIS | | | | | | | | | | | |
| NORTHWESTERN UNIVERSITY | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 5 | | 7 | | 2 | 1 | 2 | | 2 | 2 | 1 |
| UNIVERSITY OF ILLINOIS-URBANA | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 24 | | 36 | | 18 | 4 | 44 | | 42 | 24 | 12 |
| ELECTRICAL, WITH NUCLEAR OPTION | | | | | | | 1 | | | | |
| MECHANICAL, WITH NUCLEAR OPTION | | | | | | | 3 | | | | |
| PHYSICS, WITH NUCLEAR OPTION | | | | | | | 1 | | | | |
| INDIANA | | | | | | | | | | | |
| PURDUE UNIVERSITY | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 32 | | 17 | | 21 | | 16 | | 10 | 8 | 3 |
| UNIVERSITY OF NOTRE DAME | | | | | | | | | | | |
| MECHANICAL, WITH NUCLEAR OPTION | 15 | | 13 | | | | | | 11 | | |
| IOWA | | | | | | | | | | | |
| IOWA STATE UNIVERSITY | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 19 | | 15 | | 14 | 2 | 9 | | 14 | 3 | 2 |

APPENDIX A-4 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND SUBFIELD | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| KANSAS | | | | | | | | | | | |
| KANSAS STATE UNIVERSITY | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 17 | | 19 | | 10 | | 7 | | 13 | 4 | 1 |
| KENTUCKY | | | | | | | | | | | |
| UNIVERSITY OF KENTUCKY | | | | | | | | | | | |
| NUCLEAR ENGINEERING | | | | | 1 | 1 | | | | 1 | |
| MECHANICAL, WITH NUCLEAR OPTION | 6 | | 8 | | | | | | 6 | | |
| LOUISIANA | | | | | | | | | | | |
| LOUISIANA STATE UNIVERSITY | | | | | | | | | | | |
| NUCLEAR ENGINEERING | | | | | 8 | 2 | | | | 2 | |
| MAINE | | | | | | | | | | | |
| UNIVERSITY OF MAINE | | | | | | | | | | | |
| ENGINEERING PHYSICS, WITH NUCLEAR OPTION | | | | | 2 | | | | | | |

APPENDIX A-4 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND SUBFIELD | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | JULY 1981 - JUNE 1982 | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| MARYLAND | | | | | | | | | | | |
| UNITED STATES NAVAL ACADEMY | | | | | | | | | | | |
| MARINE ENGINEERING, WITH NUCLEAR OPTION | 44 | | 36 | | | | | | 28 | | |
| UNIVERSITY OF MARYLAND | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 20 | | 30 | | 2 | 13 | 6 | 7 | 10 | | 5 |
| MASSACHUSETTS | | | | | | | | | | | |
| MASSACHUSETTS INSTITUTE OF TECHNOLOGY | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 9 | | 13 | | 68 | | 94 | | | 25 | 19 |
| UNIVERSITY OF LOWELL | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 19 | | 16 | | 7 | 9 | 1 | | 14 | 3 | |
| WORCESTER POLYTECHNIC INSTITUTE | | | | | | | | | | | |
| MECHANICAL, WITH NUCLEAR OPTION | 3 | | 6 | | | | | | 4 | | |
| MICHIGAN | | | | | | | | | | | |
| MICHIGAN TECHNICAL UNIVERSITY, HOUGHTON | | | | | | | | | | | |
| CHEMICAL, WITH NUCLEAR OPTION | 3 | | 5 | | | | | | | | |
| ENGINEERING SCIENCE, WITH NUCLEAR OPTION | | | 9 | | | | | | | | |
| ELECTRICAL, WITH NUCLEAR OPTION | 16 | | 40 | | | | | | | | |
| MECHANICAL, WITH NUCLEAR OPTION | 12 | | 17 | | | | | | | | |
| METALLURGICAL, WITH NUCLEAR OPTION | 4 | | 9 | | | | | | | | |

APPENDIX A-4 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND SUBFIELD | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | JULY 1981 - JUNE 1982 | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| MICHIGAN (CONTINUED) | | | | | | | | | | | |
| UNIVERSITY OF MICHIGAN<br>NUCLEAR ENGINEERING | 25 | 1 | 19 | 3 | 37 | 4 | 42 | 1 | 21 | 16 | 10 |
| MISSISSIPPI | | | | | | | | | | | |
| MISSISSIPPI STATE UNIVERSITY<br>NUCLEAR ENGINEERING | 13 | | 19 | | 3 | | | | 15 | 1 | |
| MISSOURI | | | | | | | | | | | |
| UNIVERSITY OF MISSOURI-COLUMBIA<br>NUCLEAR ENGINEERING | | | | | 35 | | 12 | | | 4 | 2 |
| UNIVERSITY OF MISSOURI-ROLLA<br>NUCLEAR ENGINEERING | 16 | | 21 | | 7 | 2 | 4 | | 7 | 1 | 1 |
| NEBRASKA | | | | | | | | | | | |
| UNIVERSITY OF NEBRASKA<br>MECHANICAL, WITH NUCLEAR OPTION | 5 | | 4 | | | | | | 4 | | |

APPENDIX A-4 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND SUBFIELD | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| NEW JERSEY | | | | | | | | | | | |
| NEW JERSEY INSTITUTE OF TECHNOLOGY | | | | | | | | | | | |
| CHEMICAL, WITH NUCLEAR OPTION | 1 | | 3 | | | | | | 1 | | |
| ENGINEERING SCIENCE, WITH NUCLEAR OPTION | 8 | | 6 | 1 | | | | | 8 | | |
| ELECTRICAL, WITH NUCLEAR OPTION | 1 | | 3 | | | | | | 4 | | |
| MECHANICAL, WITH NUCLEAR OPTION | 4 | | 4 | | | | | | 5 | 1 | |
| STEVENS INSTITUTE OF TECHNOLOGY | | | | | | | | | | | |
| ENGINEERING SCIENCE, WITH NUCLEAR OPTION | 2 | | 2 | | | 1 | | | 2 | 1 | |
| NEW MEXICO | | | | | | | | | | | |
| UNIVERSITY OF NEW MEXICO | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 9 | | 5 | | 14 | 10 | 11 | 14 | 1 | 6 | |
| MECHANICAL, WITH NUCLEAR OPTION | 3 | 1 | 8 | | | | | | | | |
| ENERGY AND POWER, WITH NUCLEAR OPTION | | | | | | | | | 1 | | |
| NEW YORK | | | | | | | | | | | |
| CLARKSON COLLEGE OF TECHNOLOGY | | | | | | | | | | | |
| CHEMICAL, WITH NUCLEAR OPTION | 9 | | 10 | | | | | | 8 | | |
| ELECTRICAL, WITH NUCLEAR OPTION | 4 | | 2 | | | | | | 1 | | |
| MECHANICAL, WITH NUCLEAR OPTION | 4 | | 2 | | | | | | 1 | | |

APPENDIX A-4 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND SUBFIELD | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| NEW YORK (CONTINUED) | | | | | | | | | | | |
| COLUMBIA UNIVERSITY | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 4 | | 5 | | 2 | 6 | 9 | 6 | 2 | 3 | 1 |
| CORNELL UNIVERSITY | | | | | | | | | | | |
| NUCLEAR ENGINEERING | | | | | 4 | | 7 | | | 4 | |
| MANHATTAN COLLEGE | | | | | | | | | | | |
| MECHANICAL, WITH NUCLEAR OPTION | | | 23 | | | | | | | | |
| POLYTECHNIC INSTITUTE OF N.Y., BROOKLYN | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 4 | 1 | 3 | 1 | 1 | 25 | 1 | 2 | | 10 | 1 |
| RENSSELAER POLYTECHNIC INSTITUTE | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 16 | | 13 | | 21 | 1 | 31 | 1 | 11 | 23 | 5 |
| STATE UNIV. OF NEW YORK MARITIME COLLEGE | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 4 | | 8 | | | | | | 7 | | |
| STATE UNIVERSITY OF NEW YORK AT BUFFALO | | | | | | | | | | | |
| NUCLEAR ENGINEERING | | | | | | | | | 6 | 1 | |
| NORTH CAROLINA | | | | | | | | | | | |
| NORTH CAROLINA STATE UNIVERSITY | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 34 | | 23 | | 13 | | 27 | | 16 | 4 | 5 |

APPENDIX A-4 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND SUBFIELD | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| OHIO | | | | | | | | | | | |
| AIR FORCE INSTITUTE OF TECHNOLOGY | | | | | | | | | | | |
| NUCLEAR ENGINEERING | | | | | 26 | | 3 | 2 | | 13 | |
| OHIO STATE UNIVERSITY | | | | | | | | | | | |
| NUCLEAR ENGINEERING | | | | | 23 | 4 | 10 | 2 | | 11 | 2 |
| UNIVERSITY OF CINCINNATI | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 21 | | 18 | | 15 | 49 | 12 | | 31 | 5 | 2 |
| YOUNGSTOWN STATE UNIVERSITY | | | | | | | | | | | |
| CHEMICAL, WITH NUCLEAR OPTION | 4 | | 12 | | | | | | 12 | | |
| ELECTRICAL, WITH NUCLEAR OPTION | 3 | | 9 | | | | | | 9 | | |
| MECHANICAL, WITH NUCLEAR OPTION | | | 3 | | | | | | 3 | | |
| CIVIL/INDUSTRIAL ENGINEERING, W/ NUC OPT | 2 | | | | | | | | | | |
| OKLAHOMA | | | | | | | | | | | |
| UNIVERSITY OF OKLAHOMA | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 8 | | 11 | | 9 | | 1 | | 5 | 1 | 1 |

APPENDIX A-4 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND SUBFIELD | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| OREGON | | | | | | | | | | | |
| OREGON STATE UNIVERSITY<br>NUCLEAR ENGINEERING | 20 | | 20 | | 8 | 1 | 6 | | 10 | 7 | 1 |
| PENNSYLVANIA | | | | | | | | | | | |
| CARNEGIE-MELLON UNIVERSITY<br>NUCLEAR ENGINEERING | | | | | 2 | 13 | 1 | 9 | | 2 | |
| PENNSYLVANIA STATE UNIVERSITY<br>NUCLEAR ENGINEERING | 45 | | 41 | | 28 | 3 | 11 | 2 | 38 | 11 | 5 |
| TENNESSEE | | | | | | | | | | | |
| MEMPHIS STATE UNIVERSITY<br>MECHANICAL, WITH NUCLEAR OPTION | 8 | | 4 | | | | | | 2 | | |
| TENNESSEE TECHNOLOGICAL UNIVERSITY<br>ENGINEERING SCIENCE, WITH NUCLEAR OPTION | 3 | | 3 | | | | | | 3 | | |
| UNIVERSITY OF TENNESSEE, KNOXVILLE<br>NUCLEAR ENGINEERING | 18 | 1 | 19 | | 10 | 14 | 12 | 6 | 12 | 5 | 2 |

APPENDIX A-4 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND SUBFIELD | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| TEXAS | | | | | | | | | | | |
| TEXAS A&M UNIVERSITY | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 31 | | 32 | | 30 | 5 | 9 | | 23 | 8 | 3 |
| UNIVERSITY OF TEXAS, AUSTIN | | | | | | | | | | | |
| MECHANICAL, WITH NUCLEAR OPTION | 17 | | 18 | | 4 | 4 | 2 | 2 | | 2 | 2 |
| UTAH | | | | | | | | | | | |
| BRIGHAM YOUNG UNIVERSITY | | | | | | | | | | | |
| CHEMICAL, WITH NUCLEAR OPTION | 5 | | 8 | | | | | | 38 | 5 | |
| UNIVERSITY OF UTAH | | | | | | | | | | | |
| NUCLEAR ENGINEERING | | | | | 4 | 2 | 1 | | | 3 | 2 |
| CHEMICAL, WITH NUCLEAR OPTION | 3 | | 2 | | | | 1 | | 3 | | |
| ELECTRICAL, WITH NUCLEAR OPTION | 4 | | 4 | | | | | | 5 | | |
| INDUSTRIAL ENGINEERING/PHYSICS, W/ NUC O | 10 | | 15 | | 1 | 1 | | | 20 | | |
| UTAH STATE UNIVERSITY | | | | | | | | | | | |
| MECHANICAL, WITH NUCLEAR OPTION | | | 45 | | 17 | | 5 | | 25 | 6 | |
| VIRGINIA | | | | | | | | | | | |
| UNIVERSITY OF VIRGINIA | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 18 | | 20 | | 14 | 1 | 4 | 2 | 9 | 13 | 2 |
| ENGINEERING SCIENCE, WITH NUCLEAR OPTION | | | | | 3 | | 3 | | | 2 | |

APPENDIX A-4 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND SUBFIELD | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | JULY 1981 - JUNE 1982 | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| VIRGINIA (CONTINUED) | | | | | | | | | | | |
| VIRGINIA POLYTECHNIC INSTITUTE & S.U. | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 1 | | 3 | | 9 | 2 | 3 | 1 | 2 | 2 | 3 |
| CHEMICAL, WITH NUCLEAR OPTION | | | 3 | | | | | | | | |
| ELECTRICAL, WITH NUCLEAR OPTION | 1 | | 6 | | | | | | | | |
| MECHANICAL, WITH NUCLEAR OPTION | 1 | | 11 | | | | | | | | |
| CIVIL ENGINEERING, WITH NUCLEAR OPTION | | | 1 | | | | | | | | |
| WASHINGTON | | | | | | | | | | | |
| UNIVERSITY OF WASHINGTON | | | | | | | | | | | |
| NUCLEAR ENGINEERING | | | | | 33 | 10 | 11 | 1 | | 9 | 1 |
| WISCONSIN | | | | | | | | | | | |
| UNIVERSITY OF WISCONSIN-MADISON | | | | | | | | | | | |
| NUCLEAR ENGINEERING | 37 | | 31 | 1 | 37 | | 41 | | 21 | 21 | 11 |
| TOTALS | 794 | 6 | 997 | 8 | 689 | 257 | 536 | 70 | 654 | 339 | 126 |
| | 800 | | 1005 | | 946 | | 606 | | | | |

APPENDIX A-5

NUCLEAR ENGINEERING NUMBER OF DEGREES AND
ENROLLMENTS BY SUBFIELD IN FALL 1982

FT = FULL TIME
PT = PART TIME

| SUBFIELD | ENROLLMENT | | | | | | | | DEGREES | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| NUCLEAR ENGINEERING | 548 | 3 | 582 | 5 | 656 | 235 | 513 | 65 | 406 | 316 | 120 |
| CHEMICAL, WITH NUCLEAR OPTION | 27 | 0 | 45 | 0 | 0 | 0 | 6 | 0 | 63 | 5 | 1 |
| ENGINEERING SCIENCE, WITH NUCLEAR OPTION | 21 | 2 | 48 | 3 | 5 | 9 | 3 | 0 | 33 | 5 | 0 |
| ELECTRICAL, WITH NUCLEAR OPTION | 32 | 0 | 64 | 0 | 0 | 0 | 1 | 0 | 19 | 0 | 0 |
| MECHANICAL, WITH NUCLEAR OPTION | 92 | 1 | 182 | 0 | 25 | 12 | 11 | 5 | 72 | 13 | 5 |
| OTHER ENGINEERING, WITH NUCLEAR OPTIONS | 74 | 0 | 76 | 0 | 3 | 1 | 2 | 0 | 61 | 0 | 0 |

APPENDIX A-6

PLACEMENT OF NUCLEAR ENGINEERING GRADUATES BY DEGREE LEVEL, 1982

| PLACEMENT | BACHELOR'S | | | MASTER'S | | | DOCTORAL | | |
|---|---|---|---|---|---|---|---|---|---|
| | NUMBER | PERCENT | NUMBER OF FOREIGN NATIONALS | NUMBER | PERCENT | NUMBER OF FOREIGN NATIONALS | NUMBER | PERCENT | NUMBER OF FOREIGN NATIONALS |
| FURTHER STUDY | 137 | 21 | 25 | 102 | 30 | 46 | 3 | 2 | 3 |
| U.S. ACADEMIC EMPLOYMENT | 1 | * | 0 | 3 | 1 | 0 | 19 | 15 | 5 |
| FEDERAL GOVERNMENT EMPLOYMENT | 17 | 3 | 0 | 6 | 2 | 0 | 10 | 8 | 2 |
| GOCO (GOVERNMENT-OWNED/ CONTRACTOR-OPERATED INSTALLATIONS) | 9 | 1 | 0 | 14 | 4 | 0 | 15 | 12 | 0 |
| STATE AND LOCAL GOVERNMENT | 4 | 1 | 0 | 1 | * | 0 | 0 | 0 | 0 |
| NUCLEAR UTILITY EMPLOYMENT | 156 | 24 | 1 | 58 | 17 | 4 | 6 | 5 | 5 |
| INDUSTRIAL EMPLOYMENT | 169 | 26 | 8 | 79 | 23 | 6 | 29 | 23 | 9 |
| FOREIGN EMPLOYMENT | 12 | 2 | 11 | 16 | 5 | 15 | 20 | 16 | 19 |
| U.S. MILITARY SERVICE | 65 | 10 | 0 | 20 | 6 | 0 | 1 | 1 | 0 |
| OTHER | 0 | 0 | 0 | 4 | 1 | 1 | 2 | 2 | 0 |
| SEEKING EMPLOYMENT | 11 | 2 | 1 | 8 | 2 | 0 | 2 | 2 | 1 |
| UNKNOWN | 73 | 10 | 8 | 28 | 9 | 8 | 19 | 14 | 10 |
| TOTALS | 654 | 100 | 54 | 339 | 100 | 80 | 126 | 100 | 54 |

*LESS THAN 0.5 PERCENT.

NOTE: PERCENTAGES ARE ROUNDED TO NEAREST WHOLE NUMBER.

SOURCE: U.S. DEPARTMENT OF ENERGY.

## APPENDIX A-7. REPORTED PARTICIPATION BY FOREIGN NATIONALS, WOMEN, AND MINORITIES IN NUCLEAR ENGINEERING PROGRAMS, 1977-1982

| | Enrollments (Fall Term) | | | | | | | | Degrees Granted (Year Ending June 30) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3rd Year | | 4th Year | | Master's Candidates | | Doctoral Candidates | | Bachelor's | | Master's | | Doctoral | |
| Foreign Nationals | Number | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| 1977 | 80 | 8 | 72 | 7 | 312 | 27 | 202 | 35 | 32 | 4 | 127 | 23 | 36 | 30 |
| 1978 | 67 | 10 | 75 | 10 | 313 | 32 | 275 | 50 | 41 | 7 | 103 | 26 | 35 | 37 |
| 1979 | 79 | 10 | 72 | 8 | 265 | 29 | 285 | 47 | 44 | 7 | 110 | 27 | 29 | 30 |
| 1980 | 58 | 8 | 61 | 8 | 218 | 25 | 314 | 51 | 36 | 5 | 104 | 28 | 49 | 42 |
| 1981 | 43 | 6 | 79 | 9 | 205 | 23 | 262 | 45 | 42 | 7 | 81 | 26 | 63 | 48 |
| 1982 | 50 | 6 | 91 | 9 | 279 | 30 | 275 | 45 | 56 | 9 | 84 | 25 | 55 | 44 |
| **Women** | | | | | | | | | | | | | | |
| 1977 | 59 | 6 | 43 | 4 | 42 | 4 | 20 | 3 | 15 | 2 | 13 | 2 | 2 | 2 |
| 1978 | 55 | 8 | 49 | 6 | 45 | 5 | 7 | 1 | 28 | 5 | 9 | 2 | 4 | 4 |
| 1979 | 61 | 7 | 10 | 7 | 55 | 5 | 21 | 3 | 36 | 6 | 12 | 2 | 1 | 1 |
| 1980 | 69 | 9 | 68 | 9 | 64 | 7 | 31 | 5 | 44 | 7 | 19 | 5 | - | - |
| 1981 | 65 | 9 | 57 | 7 | 55 | 6 | 26 | 5 | 46 | 7 | 22 | 7 | 6 | 5 |
| 1982 | 68 | 8 | 77 | 8 | 74 | 8 | 30 | 5 | 42 | 6 | 27 | 8 | 7 | 5 |
| **Blacks** | | | | | | | | | | | | | | |
| 1977 | 8 | 1 | 12 | 1 | 14 | 1 | 4 | 1 | 1 | ** | 6 | 1 | 1 | 1 |
| 1978 | 4 | 1 | 6 | 1 | 9 | 1 | 4 | 1 | 7 | 1 | 5 | 1 | 1 | 1 |
| 1979 | 9 | 1 | 10 | 1 | 15 | 1 | 5 | 1 | 5 | 1 | - | - | 1 | 1 |
| 1980 | 10 | 1 | 9 | 1 | 12 | 1 | 8 | 1 | 7 | 1 | 4 | 1 | - | - |
| 1981 | 8 | 1 | 5 | 1 | 9 | 1 | 6 | 1 | 4 | 1 | 4 | 1 | 1 | 1 |
| 1982 | 9 | 1 | 3 | ** | 12 | 1 | 6 | 1 | 7 | 1 | 5 | 1 | - | - |
| **Hispanic Citizens** | | | | | | | | | | | | | | |
| 1977 | 7 | 1 | 5 | ** | 10* | 1 | 2 | ** | 1 | ** | 3* | 1 | 1 | 1 |
| 1978 | 12 | 1 | 8 | 1 | 11 | 1 | 2 | ** | 4 | 1 | 4 | 1 | - | - |
| 1979 | 6 | 1 | 9 | 1 | 11 | 1 | 1* | ** | 10 | 2 | 2 | ** | 1 | 1 |
| 1980 | 10 | 1 | 12 | 2 | 11 | 1 | 3 | ** | 6 | 1 | 4 | 1 | - | - |
| 1981 | 14 | 2 | 14 | 2 | 10 | 1 | 10 | 2 | 8 | 1 | 8 | 3 | - | - |
| 1982 | 15 | 2 | 16 | 2 | 8 | 1 | 6 | 1 | 8 | 1 | 3 | 1 | 1 | 1 |

APPENDIX A-7. (Continued)

| | Enrollments (Fall Term) | | | | | | | | Degrees Granted (Year Ending June 30) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3rd Year | | 4th Year | | Master's Candidates | | Doctoral Candidates | | Bachelor's | | Master's | | Doctoral | |
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| Asian Americans or Pacific Islanders | | | | | | | | | | | | | | |
| 1977 | 7 | ** | 4 | ** | 15 | 1 | 14 | 2 | 3 | ** | 7 | 1 | 2 | 2 |
| 1978 | 5 | 1 | 10 | 1 | 21 | 2 | 13 | 2 | 3 | 1 | 4 | 1 | 2 | 2 |
| 1979 | 7 | 1 | 12 | 1 | 26 | 3 | 17 | 2 | 7 | 1 | 13 | 3 | 6 | 6 |
| 1980 | 9 | 1 | 8 | 1 | 21 | 2 | 17 | 3 | 6 | 1 | 11 | 3 | 3 | 3 |
| 1981 | 8 | 1 | 12 | 1 | 18 | 2 | 14 | 2 | 8 | 1 | 5 | 2 | 3 | 2 |
| 1982 | 14 | 2 | 12 | 1 | 22 | 2 | 14 | 2 | 12 | 2 | 9 | 3 | 6 | 5 |
| American Indians or Alaskan Natives | | | | | | | | | | | | | | |
| 1977 | - | - | 1 | ** | 1 | ** | 1 | ** | - | - | - | - | - | - |
| 1978 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1979 | - | - | - | - | - | - | - | - | - | - | 1 | ** | - | - |
| 1980 | 2 | ** | 1 | ** | 1 | ** | - | - | - | - | - | - | - | - |
| 1981 | 1 | ** | 1 | ** | 1 | ** | 1 | ** | - | - | - | - | - | - |
| 1982 | - | - | - | - | 1 | ** | - | - | - | - | - | - | - | - |

*These figures do not include the University of Puerto Rico.

**Less than 0.5 percent.

Note: Percentages of enrollment and degrees granted are based on total enrollment and degrees granted by all institutions reporting in that respective year.

Source: U.S. Department of Energy.

APPENDIX A-8

NUCLEAR ENGINEERING FOREIGN NATIONALS, WOMEN, AND MINORITIES
ENROLLMENTS AND DEGREES BY INSTITUTION, 1982

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND ETHNIC/SEX SUBCATEGORY | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| ALABAMA | | | | | | | | | | | |
| TUSKEGEE INSTITUTE | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 1 | | | | | 1 | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | | | | | | | | | | 1 | |
| ARIZONA | | | | | | | | | | | |
| ARIZONA STATE UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | 1 | | 1 | | | | 1 | | |
| FOREIGN NATIONAL FEMALES | 1 | | 1 | | | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 1 | | 1 | | | | | | | | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | 1 | | | | | | | | | | |
| UNIVERSITY OF ARIZONA | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 2 | | | | 8 | 2 | 5 | | 4 | 1 | |
| FOREIGN NATIONAL FEMALES | | | 1 | | | | 1 | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 3 | | 4 | | | | | | 3 | | 1 |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | 1 | | | | | | | | | | |
| HISPANIC MALES, U. S. CITIZENS | 2 | | | | | 1 | | | | 1 | |
| HISPANIC FEMALES, U. S. CITIZENS | 1 | | 1 | | | | | | | | |
| ASIAN OR PACIFIC ISL. FEMALES, U.S. CIT. | | | | | 1 | | | | 1 | | |

APPENDIX A-8 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND ETHNIC/SEX SUBCATEGORY | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| CALIFORNIA | | | | | | | | | | | |
| CALIFORNIA STATE UNIVERSITY, NORTHRIDGE | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | 2 | 1 | | | | | 1 | | |
| HISPANIC MALES, U. S. CITIZENS | | | 1 | | | | | | | | |
| STANFORD UNIVERSITY | | | | | | | | | | | |
| HISPANIC MALES, U. S. CITIZENS | | | | | | | 1 | | | | |
| UNIVERSITY OF CALIFORNIA, LOS ANGELES | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | 1 | | 15 | | 20 | | | 5 | 1 |
| FOREIGN NATIONAL FEMALES | | | | | 1 | | 4 | | | | 1 |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | 1 | | 2 | | | | | | |
| UNIVERSITY OF CALIFORNIA, SANTA BARBARA | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 9 | | 2 | | | 2 | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | 2 | | | | | | 1 | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | 3 | | | | | | 2 | | 1 | 1 | |
| COLORADO | | | | | | | | | | | |
| UNIVERSITY OF COLORADO, BOULDER | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 1 | | 2 | | | | | | 1 | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 2 | | 3 | | | | | | 2 | | |

APPENDIX A-8 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND ETHNIC/SEX SUBCATEGORY | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| DISTRICT OF COLUMBIA | | | | | | | | | | | |
| CATHOLIC UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | 1 | | | 1 | | | | | |
| FOREIGN NATIONAL FEMALES | | | | | | | | | | | 1 |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | | | | 2 | | | | | |
| HOWARD UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 3 | | | | | 2 | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | | | | | 1 | | | | | | |
| FLORIDA | | | | | | | | | | | |
| UNIVERSITY OF FLORIDA, GAINESVILLE | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 4 | | 6 | | 2 | | 2 | 1 | 4 | | 1 |
| FOREIGN NATIONAL FEMALES | 2 | | | | | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 2 | | 5 | | | | | | | 1 | |
| HISPANIC MALES, U. S. CITIZENS | 1 | | | | | | | | | | |
| HISPANIC FEMALES, U. S. CITIZENS | 1 | | | | | | | | | | |
| GEORGIA | | | | | | | | | | | |
| GEORGIA INSTITUTE OF TECHNOLOGY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | | | | | | 4 | 1 |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 3 | | 2 | | 3 | 2 | | | | 1 | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | | | | | 2 | | | | 4 | | |
| BLACK FEMALES, NOT HISPANIC, U.S. CIT. | | | | | 1 | | | | | | |
| HISPANIC MALES, U. S. CITIZENS | | | | | 2 | | 2 | | 2 | 1 | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | | | 2 | | | | | | |
| ASIAN OR PACIFIC ISL. FEMALES, U.S. CIT. | | | | | 1 | | | | 1 | | |

APPENDIX A-8 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND ETHNIC/SEX SUBCATEGORY | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| IDAHO | | | | | | | | | | | |
| IDAHO STATE UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | 1 | | | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | 1 | | | | | | | | | |
| UNIVERSITY OF IDAHO | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | 2 | | | | | | 1 | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | | | | 2 | | | | | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | | | | | | 1 | | | | | |
| ILLINOIS | | | | | | | | | | | |
| NORTHWESTERN UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 1 | | | | | | 1 | | 1 | | 1 |
| UNIVERSITY OF ILLINOIS-URBANA | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 9 | | 12 | | 1 | 2 | 2 |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 1 | | 3 | | | | | | 2 | 2 | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | | | | | | | 1 | | | 1 | |
| HISPANIC MALES, U. S. CITIZENS | 2 | | 1 | | 1 | | | | 1 | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | 2 | | | | 2 | | 3 | | 1 | 5 | 3 |
| ASIAN OR PACIFIC ISL. FEMALES, U.S. CIT. | | | 1 | | | | | | | | |

APPENDIX A-8 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND ETHNIC/SEX SUBCATEGORY | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| INDIANA | | | | | | | | | | | |
| PURDUE UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | 1 | | 12 | | 10 | | | 3 | 2 |
| FOREIGN NATIONAL FEMALES | | | 1 | | | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 2 | | 2 | | | | | | 2 | | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | 1 | | | | | | | | | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | | | 1 | | 2 | | | | |
| UNIVERSITY OF NOTRE DAME | | | | | | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 3 | | 2 | | | | | | 1 | | |
| IOWA | | | | | | | | | | | |
| IOWA STATE UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 2 | | 1 | | 9 | | 8 | | 1 | 2 | 2 |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 1 | | 1 | | 2 | | | | 1 | 1 | |
| KANSAS | | | | | | | | | | | |
| KANSAS STATE UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 2 | | | | 1 | | 4 | | | | |
| FOREIGN NATIONAL FEMALES | | | | | 1 | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | 3 | | 1 | | 1 | | 2 | | |

APPENDIX A-8 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND ETHNIC/SEX SUBCATEGORY | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| KENTUCKY | | | | | | | | | | | |
| UNIVERSITY OF KENTUCKY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 1 | 1 | | | | 1 | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 1 | | 2 | | | | | | | | |
| LOUISIANA | | | | | | | | | | | |
| LOUISIANA STATE UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 5 | | | | | 1 | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | | | | | | | | | | 1 | |
| HISPANIC MALES, U. S. CITIZENS | | | | | | 1 | | | | | |
| MARYLAND | | | | | | | | | | | |
| UNITED STATES NAVAL ACADEMY | | | | | | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | | | | | | | 1 | | |
| UNIVERSITY OF MARYLAND | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 9 | | 9 | | 1 | 4 | 4 | 1 | 4 | | 1 |
| FOREIGN NATIONAL FEMALES | 1 | | 1 | | | | 1 | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 2 | | 4 | | | | | | | | 1 |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | | | | | | 1 | | | | | |
| HISPANIC MALES, U. S. CITIZENS | | | 1 | | | | | 1 | 1 | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | 2 | | 3 | | | | | | | | 1 |

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND ETHNIC/SEX SUBCATEGORY | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| MASSACHUSETTS | | | | | | | | | | | |
| MASSACHUSETTS INSTITUTE OF TECHNOLOGY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | 1 | | 33 | | 41 | | | 14 | 9 |
| FOREIGN NATIONAL FEMALES | | | | | 1 | | 3 | | | | 1 |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | | | 4 | | 5 | | | 2 | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | 1 | | 1 | | | | 1 | | | | |
| HISPANIC MALES, U. S. CITIZENS | | | | | 1 | | | | | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | | | 1 | | 3 | | | | 1 |
| ASIAN OR PACIFIC ISL. FEMALES, U.S. CIT. | 1 | | | | | | | | | 1 | |
| UNIVERSITY OF LOWELL | | | | | | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 2 | | | | | | | | 1 | | |
| HISPANIC MALES, U. S. CITIZENS | | | 1 | | | | | | | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | | | 3 | | | | | | |
| WORCESTER POLYTECHNIC INSTITUTE | | | | | | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | 1 | | | | | | | | |
| MICHIGAN | | | | | | | | | | | |
| MICHIGAN TECHNICAL UNIVERSITY, HOUGHTON | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 6 | | 9 | | | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 5 | | 10 | | | | | | | | |

APPENDIX A-8 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND ETHNIC/SEX SUBCATEGORY | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| MICHIGAN (CONTINUED) | | | | | | | | | | | |
| UNIVERSITY OF MICHIGAN | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 1 | | 4 | 2 | 12 | | 20 | | | 2 | 5 |
| FOREIGN NATIONAL FEMALES | | | | | | | 1 | | 1 | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 1 | | 3 | | 1 | | 2 | | | 5 | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | | | | | 1 | | | | 1 | | |
| HISPANIC MALES, U. S. CITIZENS | | | | | | | | | | | 1 |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | | | 1 | | | | | | 1 |
| MISSISSIPPI | | | | | | | | | | | |
| MISSISSIPPI STATE UNIVERSITY | | | | | | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 1 | | | | 1 | | | | | | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | | | | | | | | | 1 | | |
| MISSOURI | | | | | | | | | | | |
| UNIVERSITY OF MISSOURI-COLUMBIA | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 11 | | 7 | | | 1 | 2 |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | | | 6 | | 1 | | | 1 | |
| BLACK FEMALES, NOT HISPANIC, U.S. CIT. | | | | | 2 | | | | | | |

APPENDIX A-8 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND ETHNIC/SEX SUBCATEGORY | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| MISSOURI (CONTINUED) | | | | | | | | | | | |
| UNIVERSITY OF MISSOURI-ROLLA | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 1 | | 1 | | 3 | | 4 | | 1 | | 1 |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 2 | | 2 | | | | | | 1 | | |
| NEBRASKA | | | | | | | | | | | |
| UNIVERSITY OF NEBRASKA | | | | | | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 1 | | 1 | | | | | | 1 | | |
| NEW JERSEY | | | | | | | | | | | |
| NEW JERSEY INSTITUTE OF TECHNOLOGY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 2 | | 2 | | | | | | 3 | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 2 | | | | | | | | | | |
| HISPANIC MALES, U. S. CITIZENS | | | 2 | | | | | | 2 | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | 1 | | | | | | 1 | | |
| STEVENS INSTITUTE OF TECHNOLOGY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | | | | | 1 | | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | 1 | | | | | | | | | | |
| HISPANIC MALES, U. S. CITIZENS | | | | | | | | | 1 | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | | | | | | | | 1 | |

APPENDIX A-8 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND ETHNIC/SEX SUBCATEGORY | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | JULY 1981 - JUNE 1982 | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| NEW MEXICO | | | | | | | | | | | |
| UNIVERSITY OF NEW MEXICO | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | 1 | | 6 | | 4 | 1 | | 3 | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 2 | | | | | 2 | | 2 | | 2 | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | | | | | | | | 1 | | | |
| HISPANIC MALES, U. S. CITIZENS | 3 | | | | | | 1 | | | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | | | 1 | | | | 1 | | |
| NEW YORK | | | | | | | | | | | |
| CLARKSON COLLEGE OF TECHNOLOGY | | | | | | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 3 | | 3 | | | | | | 1 | | |
| COLUMBIA UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 1 | | 7 | | 1 | 2 | 1 |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | 1 | | | | 1 | | | | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | 1 | | | | | | | | | | |
| HISPANIC MALES, U. S. CITIZENS | 1 | | | | 1 | | | | | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | | | | 1 | | 1 | | | |
| CORNELL UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | | | 1 | | | 1 | |
| HISPANIC MALES, U. S. CITIZENS | | | | | 1 | | | | | | |
| ASIAN OR PACIFIC ISL. FEMALES, U.S. CIT. | | | | | | | 1 | | | | |

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND ETHNIC/SEX SUBCATEGORY | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| NEW YORK (CONTINUED) | | | | | | | | | | | |
| MANHATTAN COLLEGE | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | 1 | | | | | | | | |
| HISPANIC MALES, U. S. CITIZENS | | | 2 | | | | | | | | |
| RENSSELAER POLYTECHNIC INSTITUTE | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 1 | | | | 11 | | 26 | | 1 | 7 | 3 |
| FOREIGN NATIONAL FEMALES | | | | | 1 | 1 | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 1 | | | | 1 | | | | 2 | 1 | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | | | | | | | 2 | | | | |
| HISPANIC MALES, U. S. CITIZENS | | | 1 | | | | | | | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | 2 | | | | | | | | |
| ASIAN OR PACIFIC ISL. FEMALES, U.S. CIT. | 1 | | | | | | | | | | |
| STATE UNIV. OF NEW YORK MARITIME COLLEGE | | | | | | | | | | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | | | | | | | 1 | | |
| STATE UNIVERSITY OF NEW YORK AT BUFFALO | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | | | | | 1 | 1 | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | | | | | | | 1 | | |

APPENDIX A-8 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND ETHNIC/SEX SUBCATEGORY | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| NORTH CAROLINA | | | | | | | | | | | |
| NORTH CAROLINA STATE UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 1 | | 2 | | 9 | | 22 | | | 2 | 4 |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 3 | | 1 | | 1 | | | | 2 | | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | 1 | | 1 | | | | 1 | | | | |
| OHIO | | | | | | | | | | | |
| AIR FORCE INSTITUTE OF TECHNOLOGY | | | | | | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | | | 1 | | | | | | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | | | | | | | | | | 1 | |
| OHIO STATE UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 5 | 1 | | | | 3 | 1 |
| FOREIGN NATIONAL FEMALES | | | | | 1 | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | | | | | | | | 2 | 1 |
| UNIVERSITY OF CINCINNATI | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 13 | 1 | 10 | | | 3 | 2 |
| FOREIGN NATIONAL FEMALES | | | | | | | 1 | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | | | | 1 | | | 4 | | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | | | | | | | | | | 1 | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | 1 | | | | | | | | |
| YOUNGSTOWN STATE UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 1 | | 4 | | | | | | 4 | | |

FT - FULL TIME
PT - PART TIME

| STATE - INSTITUTION AND ETHNIC/SEX SUBCATEGORY | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| OKLAHOMA | | | | | | | | | | | |
| UNIVERSITY OF OKLAHOMA | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 2 | | 1 | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 1 | | 1 | | | | | | 1 | 1 | 1 |
| OREGON | | | | | | | | | | | |
| OREGON STATE UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 1 | | 2 | | 1 | | 2 | | 2 | | 1 |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | | | | | | | 1 | 1 | |
| HISPANIC MALES, U. S. CITIZENS | 1 | | | | | | 1 | | | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | 1 | | 1 | | | | 1 | | | 1 | |
| PENNSYLVANIA | | | | | | | | | | | |
| CARNEGIE-MELLON UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 1 | | 1 | 1 | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | | | | | | | | 1 | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | | | | | | 2 | | | | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | | | | 1 | | | | | |
| | | | | | | 1 | | 1 | | | |
| PENNSYLVANIA STATE UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 18 | | 8 | 2 | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | | | 1 | | | | | 6 | 3 |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | | | 1 | | | | | | |

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND ETHNIC/SEX SUBCATEGORY | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| TENNESSEE | | | | | | | | | | | |
| MEMPHIS STATE UNIVERSITY | | | | | | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 2 | | 2 | | | | | | | | |
| UNIVERSITY OF TENNESSEE, KNOXVILLE | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 2 | | 5 | | 5 | | 7 | | 5 | 2 | 1 |
| FOREIGN NATIONAL FEMALES | | | | | | | 1 | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 2 | | 1 | | 1 | | | | 1 | | |
| TEXAS | | | | | | | | | | | |
| TEXAS A&M UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 3 | | 1 | | 3 | | | | 1 | | 1 |
| FOREIGN NATIONAL FEMALES | | | | | 1 | | | | | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 3 | | 2 | | 4 | | | | 2 | 1 | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | 1 | | | | 1 | | | | 1 | | |
| HISPANIC MALES, U. S. CITIZENS | 2 | | 3 | | | | | | 1 | | |
| HISPANIC FEMALES, U. S. CITIZENS | | | 1 | | | | | | | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | 1 | | 1 | | | | 1 | | |
| UNIVERSITY OF TEXAS, AUSTIN | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 1 | 1 | 1 | | | | 2 |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | | | | | 2 | | | | | | |

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND ETHNIC/SEX SUBCATEGORY | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| UTAH | | | | | | | | | | | |
| BRIGHAM YOUNG UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | | | | | 1 | | |
| UNIVERSITY OF UTAH | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 2 | | 4 | | 2 | | | | 4 | | |
| FOREIGN NATIONAL FEMALES | | | 1 | | | | | | 1 | | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 2 | | 2 | | | | | | 3 | | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | 1 | | 1 | | | | | | | | |
| HISPANIC MALES, U. S. CITIZENS | 1 | | 1 | | | | | | | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | 2 | | 2 | | | | | | 2 | | |
| ASIAN OR PACIFIC ISL. FEMALES, U.S. CIT. | 1 | | | | | | | | | | |
| UTAH STATE UNIVERSITY | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | 15 | | 3 | | 1 | | 5 | | |
| HISPANIC MALES, U. S. CITIZENS | | | 1 | | | | | | | | |
| ASIAN OR PACIFIC ISL. FEMALES, U.S. CIT. | | | | | | | | | 1 | | |
| AMER. IND., ALASK. NAT. MALES, U.S. CIT. | | | | | 1 | | | | | | |
| VIRGINIA | | | | | | | | | | | |
| UNIVERSITY OF VIRGINIA | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 1 | | 1 | | | | |
| FOREIGN NATIONAL FEMALES | | | | | | | | | | 1 | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 2 | | 3 | | 1 | | | | 2 | 1 | |
| BLACK MALES, NOT HISPANIC, U.S. CIT. | | | | | 1 | | | | | | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | 1 | | | | | | | | | | |

APPENDIX A-S (CONTINUED)

FT = FULL TIME
PT = PART TIME

| STATE - INSTITUTION AND ETHNIC/SEX SUBCATEGORY | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | JULY 1981 - JUNE 1982 | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| VIRGINIA (CONTINUED) | | | | | | | | | | | |
| VIRGINIA POLYTECHNIC INSTITUTE & S.U. | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 2 | | 2 | 1 | | | 2 |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 1 | | | | | | | | | 1 | |
| WASHINGTON | | | | | | | | | | | |
| UNIVERSITY OF WASHINGTON | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | | | | | 15 | | 7 | | | | |
| FOREIGN NATIONAL FEMALES | | | | | | 1 | 1 | | | 1 | |
| ASIAN OR PACIFIC ISL. MALES, U.S. CIT. | | | | | 5 | | | | | | |
| WISCONSIN | | | | | | | | | | | |
| UNIVERSITY OF WISCONSIN-MADISON | | | | | | | | | | | |
| FOREIGN NATIONAL MALES | 4 | | 3 | | 2 | | 12 | | 4 | 8 | 2 |
| FOREIGN NATIONAL FEMALES | | | 1 | | 18 | | 2 | | | 1 | |
| WHITE FEMALES, NOT HISPANIC, U.S. CIT. | 1 | | | | | | 2 | | 1 | 2 | 1 |
| TOTALS | 146 | 1 | 187 | 3 | 334 | 31 | 302 | 13 | 120 | 124 | 66 |
| | 147 | | 190 | | 365 | | 315 | | | | |

APPENDIX A-9

NUCLEAR ENGINEERING CURRICULUM OR OPTIONS BY UNDERGRADUATE OR GRADUATE INSTITUTIONS, FALL 1982

UG-Undergraduate
G-Graduate

Nuclear Engineering

AL-Tuskeegee Institute - G
AZ-University of Arizona - UG,G
CA-University of California,
Berkeley - UG,G
-University of California,
Los Angeles - UG,G
-University of California,
Santa Barbara - UG,G
CO-Colorado State University - G
FL-University of Florida, Gainesville - UG,G
GA-Georgia Institute of Technology - UG,G
ID-University of Idaho - G
IL-Northwestern University - UG,G
-University of Illinois-Urbana - UG,G
IN-Purdue University - UG,G
IA-Iowa State University - UG,G
KS-Kansas State University - UG,G
KY-University of Kentucky - G
LA-Louisiana State University - G
MD-University of Maryland - UG,G
MA-Massachusetts Institute of
Technology - UG,G
-University of Lowell - UG,G
MI-University of Michigan - UG,G
MS-Mississippi State University - UG,G
MO-University of Missouri-Columbia - G
-University of Missouri-Rolla - UG,G



NM-University of New Mexico - UG,G
NY-State University of New York,
Maritime College - UG
-Polytechnic Institute of
New York - UG,G
-State University of New York,
Buffalo - UG,G
-Columbia University - UG,G
-Cornell University - G
-Rensselaer Polytechnic Institute - UG,G
NC-North Carolina State University - UG,G
OH-University of Cincinnati - UG,G
-Ohio State University - G
-Air Force Institute of Technology - G
OK-University of Oklahoma - UG,G
OR-Oregon State University - UG,G
PA-Carnegie-Mellon University - G
-Pennsylvania State University - UG,G
TN-University of Tennessee, Knoxville - UG,G
TX-Texas A&M University - UG,G
UT-University of Utah - G
VA-Virginia Polytechnic Institute
& State University - UG,G
-University of Virginia - UG,G
WA-University of Washington - G
WI-University of Wisconsin - UG,G

APPENDIX A-9 (Continued)

UG - Undergraduate
G - Graduate

## Chemical Engineering

AZ-Arizona State University - UG
CA-University of California,
Santa Barbara - G
ID-University of Idaho - UG
MI-Michigan Technical University, Houghton - UG
NJ-New Jersey Institute of Technology - UG
NY-Clarkson College of Technology - UG
OH-Youngstown State University - UG
UT-Brigham Young University - UG,G
-University of Utah - UG,G
VA-Virginia Polytechnic Institute &
State University - UG

## Engineering Science

AZ-Arizona State University - UG,G
CA-California State University,
Northridge - UG,G
ID-Idaho State University - UG,G
MI-Michigan Technical University, Houghton - UG
NJ-New Jersey Institute of
Technology - UG
-Stevens Institute of Technology - UG,G
TN-Tennessee Technological
University - UG
VA-University of Virginia - G

## Electrical Engineering

AZ-Arizona State University - UG
ID-University of Idaho - UG
IL-University of Illinois-Urbana - G
MI-Michigan Technical University - UG
NJ-New Jersey Institute of
Technology - UG
NY-Clarkson College of Technology - UG
OH-Youngstown State University - UG
UT-University of Utah - UG
VA-Virginia Polytechnic Institute &
State University - UG

UG-Undergraduate
G-Graduate

## Mechanical Engineering

AZ-Arizona State University - UG
CA-Stanford University - G
DC-Catholic University of America - UG,G
-Howard University - G
ID-University of Idaho - UG
IL-University of Illinois-Urbana - G
IN-University of Notre Dame - UG
KY-University of Kentucky - UG
MA-Worcester Polytechnic Institute - UG
MI-Michigan Technical University - UG
NE-University of Nebraska, Lincoln - UG
NJ-New Jersey Institute of Technology - UG,G
NM-University of New Mexico - UG
NY-Manhattan College - UG
-Clarkson College - UG
OH-Youngstown State University - UG
TN-Memphis State University - UG
TX-University of Texas, Austin - UG,G
UT-Utah State University - UG,G
VA-Virginia Polytechnic Institute & State University - UG

## Civil Engineering

CA-Stanford University - G
VA-Virginia Polytechnic Institute & State University - UG

## Civil/Industrial Engineering

OH-Youngstown State University - UG

## Energy and Power

NM-University of New Mexico - UG

## Engineering Physics

CO-University of Colorado, Boulder - UG
ME-University of Maine - G

APPENDIX A-9 (Continued)

UG-Undergraduate
G-Graduate

Industrial Engineering/Physics

UT-University of Utah - UG,G

Marine Engineering

MD-United States Naval Academy - UG

Physics

IL-University of Illinois-Urbana - G

Metallurgical

MI-Michigan Technical University, Houghton - UG

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NOTE: Undergraduate or graduate initials indicate students reported by institutions and not availability of programs.

APPENDIX A-10

NUCLEAR ENGINEERING ENROLLMENTS AND DEGREES
BY STATE AND REGION, 1982

FT = FULL TIME
PT = PART TIME

| REGION - STATE | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| REGION I - NEW ENGLAND | | | | | | | | | | | |
| MAINE | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| MASSACHUSETTS | 31 | 0 | 35 | 0 | 75 | 9 | 95 | 0 | 18 | 28 | 19 |
| TOTAL | 31 | 0 | 35 | 0 | 77 | 9 | 95 | 0 | 18 | 28 | 19 |
| REGION II - MIDDLE ATLANTIC | | | | | | | | | | | |
| MARYLAND | 64 | 0 | 66 | 0 | 2 | 13 | 6 | 7 | 38 | 0 | 5 |
| NEW JERSEY | 16 | 0 | 18 | 1 | 0 | 1 | 0 | 0 | 20 | 2 | 0 |
| NEW YORK | 45 | 1 | 66 | 1 | 28 | 32 | 48 | 9 | 36 | 41 | 7 |
| PENNSYLVANIA | 45 | 0 | 41 | 0 | 30 | 16 | 12 | 11 | 38 | 13 | 5 |
| TOTAL | 170 | 1 | 191 | 2 | 60 | 62 | 66 | 27 | 132 | 56 | 17 |

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APPENDIX A-10 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| REGION - STATE | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| REGION III - EAST NORTH-CENTRAL | | | | | | | | | | | |
| ILLINOIS | 29 | 0 | 43 | 0 | 20 | 5 | 51 | 0 | 44 | 26 | 13 |
| INDIANA | 47 | 0 | 30 | 0 | 21 | 0 | 16 | 0 | 21 | 8 | 3 |
| MICHIGAN | 60 | 1 | 99 | 3 | 37 | 4 | 42 | 1 | 21 | 16 | 10 |
| OHIO | 30 | 0 | 42 | 0 | 64 | 53 | 25 | 4 | 55 | 29 | 4 |
| WISCONSIN | 37 | 0 | 31 | 1 | 37 | 0 | 41 | 0 | 21 | 21 | 11 |
| TOTAL | 203 | 1 | 245 | 4 | 179 | 62 | 175 | 5 | 162 | 100 | 41 |
| REGION IV - WEST NORTH-CENTRAL | | | | | | | | | | | |
| IOWA | 19 | 0 | 15 | 0 | 14 | 2 | 9 | 0 | 14 | 3 | 2 |
| KANSAS | 17 | 0 | 19 | 0 | 10 | 0 | 7 | 0 | 13 | 4 | 1 |
| MISSOURI | 16 | 0 | 21 | 0 | 42 | 2 | 16 | 0 | 7 | 5 | 3 |
| NEBRASKA | 5 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 |
| TOTAL | 57 | 0 | 59 | 0 | 66 | 4 | 32 | 0 | 38 | 12 | 6 |

APPENDIX A-10 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| REGION - STATE | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| REGION V - SOUTH ATLANTIC | | | | | | | | | | | |
| DISTRICT OF COLUMBIA | 0 | 0 | 3 | 0 | 4 | 8 | 0 | 3 | 0 | 4 | 1 |
| FLORIDA | 33 | 0 | 43 | 0 | 11 | 2 | 3 | 3 | 14 | 10 | 2 |
| GEORGIA | 10 | 0 | 22 | 0 | 13 | 17 | 3 | 0 | 16 | 6 | 1 |
| NORTH CAROLINA | 34 | 0 | 23 | 0 | 13 | 0 | 27 | 0 | 16 | 4 | 5 |
| VIRGINIA | 21 | 0 | 44 | 0 | 26 | 3 | 10 | 3 | 11 | 17 | 5 |
| TOTAL | 98 | 0 | 135 | 0 | 67 | 30 | 43 | 9 | 59 | 41 | 14 |
| REGION VI - EAST SOUTH-CENTRAL | | | | | | | | | | | |
| ALABAMA | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |
| KENTUCKY | 6 | 0 | 8 | 0 | 1 | 1 | 0 | 0 | 6 | 1 | 0 |
| MISSISSIPPI | 13 | 0 | 19 | 0 | 3 | 0 | 0 | 0 | 15 | 1 | 0 |
| TENNESSEE | 29 | 1 | 26 | 0 | 10 | 14 | 12 | 6 | 17 | 5 | 2 |
| TOTAL | 48 | 1 | 53 | 0 | 15 | 15 | 12 | 6 | 38 | 9 | 2 |

APPENDIX A-10 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| REGION - STATE | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| REGION VII - WEST SOUTH-CENTRAL | | | | | | | | | | | |
| LOUISIANA | 0 | 0 | 0 | 0 | 8 | 2 | 0 | 0 | 0 | 2 | 0 |
| OKLAHOMA | 8 | 0 | 11 | 0 | 9 | 0 | 1 | 0 | 5 | 1 | 1 |
| TEXAS | 48 | 0 | 50 | 0 | 34 | 9 | 11 | 2 | 23 | 10 | 5 |
| TOTAL | 56 | 0 | 61 | 0 | 51 | 11 | 12 | 2 | 28 | 13 | 6 |
| REGION VIII - MOUNTAIN | | | | | | | | | | | |
| ARIZONA | 31 | 0 | 27 | 0 | 11 | 8 | 8 | 6 | 27 | 9 | 4 |
| COLORADO | 14 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 12 | 1 | 0 |
| IDAHO | 12 | 2 | 24 | 0 | 0 | 30 | 0 | 0 | 18 | 3 | 0 |
| NEW MEXICO | 12 | 1 | 13 | 0 | 14 | 10 | 11 | 14 | 2 | 6 | 0 |
| UTAH | 22 | 0 | 74 | 0 | 22 | 3 | 7 | 0 | 91 | 14 | 2 |
| TOTAL | 91 | 3 | 153 | 0 | 47 | 51 | 26 | 20 | 150 | 33 | 6 |

APPENDIX A-10 (CONTINUED)

FT = FULL TIME
PT = PART TIME

| REGION - STATE | ENROLLMENT - FALL 1982 | | | | | | | | DEGREES GRANTED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | UNDERGRADUATE | | | | GRADUATE | | | | | | |
| | 3RD YEAR | | 4TH YEAR | | MASTER | | DOCTORATE | | JULY 1981 - JUNE 1982 | | |
| | FT | PT | FT | PT | FT | PT | FT | PT | BACH | MASTER | PHD |
| REGION IX - PACIFIC | | | | | | | | | | | |
| CALIFORNIA | 20 | 0 | 45 | 2 | 86 | 2 | 58 | 0 | 19 | 31 | 13 |
| OREGON | 20 | 0 | 20 | 0 | 8 | 1 | 6 | 0 | 10 | 7 | 1 |
| WASHINGTON | 0 | 0 | 0 | 0 | 33 | 10 | 11 | 1 | 0 | 9 | 1 |
| TOTAL | 40 | 0 | 65 | 2 | 127 | 13 | 75 | 1 | 29 | 47 | 15 |

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APPENDIX A-11

NUCLEAR ENGINEERING DEGREES GRANTED AS A PERCENTAGE OF ALL ENGINEERING DEGREES BY DEGREE LEVEL, 1967-1982

| Year Ending June 30 | Bachelor's | | | Master's | | | Doctoral | | |
|---|---|---|---|---|---|---|---|---|---|
| | All Engineering | Nuclear Engineering | Percent Nuclear/ All Eng. | All Engineering | Nuclear Engineering | Percent Nuclear/ All Eng. | All Engineering | Nuclear Engineering | Percent Nuclear/ All Eng. |
| 1967 | 36,186 | 167 | 0.46 | 13,887 | 326 | 2.35 | 2,614 | 137 | 5.24 |
| 1968 | 38,002 | 251 | 0.66 | 15,152 | 320 | 2.11 | 2,933 | 148 | 5.05 |
| 1969 | 39,972 | 315 | 0.79 | 14,980 | 385 | 2.57 | 3,345 | 154 | 4.60 |
| 1970 | 42,966 | 424 | 0.99 | 15,548 | 413 | 2.66 | 3,620 | 182 | 5.03 |
| 1971 | 43,167 | 461 | 1.07 | 16,383 | 414 | 2.53 | 3,640 | 171 | 4.70 |
| 1972 | 44,190 | 561 | 1.27 | 17,356 | 436 | 2.51 | 3,774 | 151 | 4.00 |
| 1973 | 43,429 | 701 | 1.61 | 17,152 | 453 | 2.64 | 3,587 | 128 | 3.57 |
| 1974 | 41,407 | 661 | 1.60 | 15,885 | 465 | 2.93 | 3,362 | 128 | 3.81 |
| 1975 | 38,210 | 565 | 1.48 | 15,549 | 468 | 3.01 | 3,138 | 101 | 3.22 |
| 1976 | 37,970 | 683 | 1.80 | 16,506 | 468 | 2.84 | 2,977 | 145 | 4.87 |
| 1977 | 40,094 | 795 | 1.98 | 16,517 | 554 | 3.35 | 2,814 | 121 | 4.30 |
| 1978 | 46,091 | 824 | 1.79 | 16,182 | 487 | 3.00 | 2,573 | 110 | 4.28 |
| 1979 | 52,598 | 794 | 1.51 | 16,032 | 463 | 2.89 | 2,815 | 117 | 4.16 |
| 1980 | 58,742 | 695 | 1.18 | 17,243 | 365 | 2.12 | 2,751 | 116 | 4.22 |
| 1981 | 62,935 | 642 | 1.02 | 17,914 | 315 | 1.76 | 2,841 | 131 | 4.61 |
| 1982 | 66,990 | 654 | 0.98 | 18,289 | 339 | 1.85 | 2,887 | 126 | 4.36 |

Source: Data for all engineering degrees supplied by Engineering Manpower Commission, New York; for nuclear engineering degrees, U.S. Department of Energy.

APPENDIX B-1

ADDRESSES OF INSTITUTIONS IN SURVEY UNIVERSE WITH ACTIVE PROGRAMS IN NUCLEAR ENGINEERING, 1982

Tuskegee Institute
Mechanical Engineering
Tuskegee, Alabama 36088

Arizona State University
Engineering Department
Tempe, Arizona 85281

University of Arizona
Nuclear & Energy Engineering
Tucson, Arizona 85721

University of California, Berkeley
Department of Nuclear Engineering
Berkeley, California 94720

University of California, Los Angeles
Department of Engineering & Applied Science
Los Angeles, California 90024

California State University
Mechanical & Chemical Engineering
Northbridge, California 91330

University of California, Santa Barbara
Department of Chemical & Nuclear Engineering
Santa Barbara, California 93106

Stanford University
Department of Mechanical Engineering
Stanford, California 94305

University of Colorado
Physics Department
Boulder, Colorado 80309

Colorado State University
Department of Mechanical Engineering
Fort Collins, Colorado 80523

Catholic University of America
Department of Mechanical Engineering
Washington, D.C. 20064

Howard University
Mechanical Engineering/Nuclear
Washington, D.C. 20059

University of Florida
Department of Nuclear Engineering Sciences
Gainesville, Florida 32611

Georgia Institute of Technology
School of Nuclear Engineering & Health Physics
Atlanta, Georgia 30332

APPENDIX B-1 (Continued)

University of Idaho
Depts. of Mechanical, Chemical,
& Electrical Engineering/Nuclear
Moscow, Idaho 83843

Idaho State University
School of Engineering
Pocatello, Idaho 83209

Northwestern University
Mechanical and Nuclear Engineering
Evanston, Illinois 61801

University of Illinois
Department of Nuclear Engineering
Urbana, Illinois 61801

University of Notre Dame
Department of Aerospace &
Mechanical Engineering
Notre Dame, Indiana 46556

Purdue University
Department of Nuclear Engineering
West Lafayette, Indiana 47906

Iowa State University
Department of Nuclear Engineering
Ames, Iowa 50011

Kansas State University
Department of Nuclear Engineering
Manhattan, Kansas 66506

University of Kentucky
Department of Mechanical Engineering
Lexington, Kentucky 40506

Louisiana State University
Nuclear Science Center
Baton Rouge, Louisiana 70803

University of Maine
Department of Physics
Orono, Maine 04469

U.S. Naval Academy
Naval Systems Engineering
Annapolis, Maryland 21402

University of Maryland
Department of Nuclear Engineering
College Park, Maryland 20742

Massachusetts Institute of
Technology
Department of Nuclear Engineering
Cambridge, Massachusetts 02139

University of Lowell
Department of Mechanical & Energy
Nuclear Engineering
Lowell, Massachusetts 01854

Worcester Polytechnic Institute
Department of Mechanical Engineering
Worcester, Massachusetts 01609

University of Michigan
Department of Nuclear Engineering
Ann Arbor, Michigan 48109

Michigan Technical University
Department of Physics
Houghton, Michigan 49331

Mississippi State University
Department of Mechanical
& Nuclear Engineering
Mississippi State, Mississippi 39762

University of Missouri, Columbia
Department of Nuclear Engineering
Columbia, Missouri 65211

University of Missouri, Rolla
Department of Nuclear Engineering
Rolla, Missouri 65401

University of Nebraska
Dept. of Mechanical Engineering
Lincoln, Nebraska 68588

Stevens Institute of Technology
Physics & Engineering Physics
Hoboken, New Jersey 07030

New Jersey Institute of Technology
Department of Physics &
Engineering Science
Newark, New Jersey 07102

University of New Mexico
Departments of Mechanical, Chemical,
& Nuclear Engineering
Albuquerque, New Mexico 87131

Polytechnic Institute of New York
Department of Nuclear Engineering
Brooklyn, New York 11201

State University of New York, Buffalo
Department of Engineering
& Applied Sciences
Buffalo, New York 14214

Cornell University
Department of Nuclear Science
& Engineering
Ithaca, New York 14853

Columbia University
Department of Applied Physics
& Nuclear Engineering
New York, New York 10027

State University of New York,
Maritime College
Department of Science, Engineering
New York, New York 10465

Manhattan College
Mechanical Engineering Department
New York, New York 10471

APPENDIX B-1 (Continued)

Clarkson College of Technology
School of Engineering
Potsdam, New York 13676

Rensselaer Polytechnic Institute
Department of Nuclear Engineering
Troy, New York 12181

North Carolina State University
Department of Nuclear Engineering
Raleigh, North Carolina 27650

University of Cincinnati
Department of Chemical &
Nuclear Engineering
Cincinnati, Ohio 45221

Ohio State University
Department of Nuclear Engineering
Columbus, Ohio 43210

Air Force Institute of Technology
Physics Department (School of Engineering)
Dayton, Ohio 45433

Youngstown State University
Dept of Chemical & Nuclear Engineering
Youngstown, Ohio 44555

University of Oklahoma
Department of Nuclear Engineering
Norman, Oklahoma 73019

Oregon State University
Department of Nuclear Engineering
Corvallis, Oregon 97331

Carnegie-Mellon University
Department of Nuclear Science
& Engineering
Pittsburgh, Pennsylvania 15213

Pennsylvania State University
Department of Nuclear Engineering
University Park, Pennsylvania 16802

Memphis State University*
Dept. of Mechanical Engineering
Memphis, Tennessee 38152

Tennessee Technological University
Department of Engineering Science
& Mechanics
Cookeville, Tennessee 38501

University of Tennessee
Department of Nuclear Engineering
Knoxville, Tennessee 37916

University of Texas, Austin
Department of Mechanical Engineering
Austin, Texas 78712

Texas A&M University
Department of Nuclear Engineering
College Station, Texas 77843

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*Restored to active status in 1982.

APPENDIX B-1 (Continued)

Utah State University
Department of Mechanical Engineering
Logan, Utah 84231

Brigham Young University
Department of Chemical Engineering
Provo, Utah 84602

University of Utah
Department of Mechanical
& Industrial Engineering
Salt Lake City, Utah 84112

Virginia Polytechnic Institute
Nuclear Engineering Department
Blacksburg, Virginia 24061

University of Virginia
Department of Nuclear Engineering
& Engineering Physics
Charlottesville, Virginia 22901

University of Washington
Department of Nuclear Engineering
Seattle, Washington 98195

University of Wisconsin
Department of Nuclear Engineering
Madison, Wisconsin 53706

APPENDIX B-2

ADDRESSES OF INSTITUTIONS IN SURVEY UNIVERSE WITH INACTIVE PROGRAMS IN NUCLEAR ENGINEERING, 1982

| Inactive | Discontinued |
|---|---|
| Case Western University<br>Electrical Engineering & Applied Physics<br>Cleveland, Ohio 44106 | University of Puerto Rico<br>Mechanical & Nuclear Engineering<br>Mayaguez, Puerto Rico 00708 |
| University of Pennsylvania<br>Mechanical Engineering Department<br>Philadelphia, Pennyslvania 19104 | |
| South Dakota State University<br>Department of Mechanical Engineering<br>Brookings, South Dakota 57007 | |

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APPENDIX C
SURVEY MATERIALS

**Department of Energy**
**Washington, D.C. 20585**

September 20 , 1982

Dear Professor:

The enclosed forms are designed to obtain data concerning the potential supply of nuclear engineers. This survey is carried out by the Department of Energy (DOE) in partial fulfillment of its requirement "to assure an adequate supply of manpower for...energy research and development programs...by...the collection, analysis, and dissemination of necessary manpower supply and demand data...," which is mandated in P.L. 93-438, the Energy Reorganization Act of 1974, as amended. The survey is sent to all colleges with programs in nuclear engineering or in other engineering disciplines with nuclear option courses which would prepare a graduate of the program to perform as a nuclear engineer.

These forms do not request any individually identifiable data on students, therefore, DOE does not consider the information to be confidential. In fact, in addition to aiding DOE in the conduct of its programs, the results of the survey are published and distributed to over 200 private employers, educational institutions, and government agencies, who use the report for recruiting and other purposes. Included in this distribution are all of the electric utility members of the Institute of Nuclear Power Operations (INPO), the Nuclear Regulatory Commission, and the American Nuclear Society.

Because of the continuing concern that there may be inadequate supplies of qualified personnel for the nuclear industry, we wish to make the results as comprehensive, accurate, and timely as possible. Complete instructions and definitions needed in filling out the form are included on the form itself. We hope you will cooperate by completing and returning the form (or informing us if you feel that your program does not fit the definition given). Please return the form at your earliest convenience, if possible by mid-November, to the following address:

Duveen L. Shirley/Joanna R. Little
Oak Ridge Associated Universities
Post Office Box 117
Oak Ridge, Tennessee 37830
(615) 576-3409 or 576-3317

A stamped, self-addressed envelope is enclosed for your convenience. Thank you for your cooperation.

Sincerely,

Norman Seltzer, Chief
Manpower Assessment Program
Office of Field Operations Management
Office of Energy Research

Enclosures

DOE Form IR-616

**IMPORTANT:** *Before completing this form, please see instructions and definitions on the back.*

U. S. Department of Energy

# NUCLEAR ENGINEERING ENROLLMENT AND DEGREE SURVEY: 1982

FORM APPROVED
OMB NO. 1901-0015
Exp. June 1983

Name of Institution (1–36) | City (1–27) | State (28–30) | Zip Code (31–36)

Department(s) Reporting (37–60)

Area Code (61–62) | Telephone Number (67–76) | (79–80) A1

Title of Official Supplying Data (37–60)

Area Code (61–62) | Telephone Number (67–76) | (79–80) A2

Name of Official Supplying Date (1–36)

| SCHOOL NUMBER (Leave Blank) 6 | NUCLEAR ENGINEERING CURRICULUM OR OPTION | CODE 7–8 | ENROLLMENTS FALL 1982 — UNDERGRADUATES 3rd Year Full Time 9–11 | 3rd Year Part Time 12–14 | 4th Year Full Time 15–17 | 4th Year Part Time 18–20 | MASTER CANDIDATES Full Time 27–29 | MASTER CANDIDATES Part Time 30–32 | DOCTORATE CANDIDATES Full Time 33–35 | DOCTORATE CANDIDATES Part Time 36–38 | DEGREES GRANTED July 1981–June 1982 Bachelor 39–41 | Master 42–44 | Doctorate 45–47 | CARD 79–80 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Nuclear | 10 | | | | | | | | | | | | 1 |
| | Chemical, with nuclear option | 20 | | | | | | | | | | | | 1 |
| | Engineering Science, with nuclear option | 90 | | | | | | | | | | | | 1 |
| | Electrical, with nuclear option | 40 | | | | | | | | | | | | 1 |
| | Mechanical, with nuclear option | 60 | | | | | | | | | | | | 1 |
| | Other (*Specify, e.g., Industrial, Civil*) | 70 | | | | | | | | | | | | 1 |
| | TOTAL | | | | | | | | | | | | | |

● Please break out the following from the totals reported above.

| | | CODE | FT | PT | FT | PT | FT | PT | FT | PT | B | M | D | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Foreign nationals | Male | 80 | | | | | | | | | | | | 1 |
| | Female | 8A | | | | | | | | | | | | 1 |
| White U.S. citizens, not of Hispanic origin | Male | 81 | | | | | | | | | | | | 1 |
| | Female | 8B | | | | | | | | | | | | 1 |
| Black U.S. citizens, not of Hispanic origin | Male | 82 | | | | | | | | | | | | 1 |
| | Female | 8C | | | | | | | | | | | | 1 |
| Hispanic U.S. citizens | Male | 83 | | | | | | | | | | | | 1 |
| | Female | 8D | | | | | | | | | | | | 1 |
| Asian or Pacific Islander U.S. citizens | Male | 84 | | | | | | | | | | | | 1 |
| | Female | 8E | | | | | | | | | | | | 1 |
| American Indian or Alaskan native U.S. citizens | Male | 85 | | | | | | | | | | | | 1 |
| | Female | 8F | | | | | | | | | | | | 1 |

This survey is authorized by Public Law 93-438, as amended. While you are not required to respond, your cooperation is needed to make the results comprehensive, accurate, and timely. Information will NOT be held confidential.

*Authorized Signature* _____ *Date* _____

Remarks

Note: Information provided through this survey will not be held confidential.

INSTRUCTIONS AND DEFINITIONS FOR COMPLETING DOE FORM IR-616

PURPOSE: This voluntary survey is conducted for the Department of Energy (DOE) in partial fulfillment of their obligation to "assure an adequate supply of manpower for the accomplishment of energy research and development programs...by...the collection, analysis and dissemination of necessary manpower supply and demand data," as mandated in P.L. 93-438, the Energy Reorganization Act of 1974, as amended. It is used to determine by degree level, the yearly supply and anticipated supply of those trained in nuclear engineering or in another engineering discipline with a nuclear option, except in the areas of radiation protection.

WHO SHOULD COMPLETE AND SUBMIT FORMS: All departments with programs in nuclear engineering or in other engineering disciplines with a nuclear option sufficient to equip its graduates to function as nuclear engineers. Exception: any engineering curriculum with a health physics or radiation protection option should be reported on DOE Form IR-617, which is available from the address or telephone number given below. Each major program should be reported on the appropriate line or on separate lines in the write-in space. Very small specialties should be combined.

WHEN AND WHERE TO SUBMIT FORMS: Forms should be submitted within two weeks of receipt, or the latest, by mid-November, depending upon your institution's enrollment schedule. Send completed forms to:

Duveen L. Shirley/Joanna R. Little
Oak Ridge Associated Universities
P.O. Box 117
Oak Ridge, Tennessee 37830
(615) 576-3409 or 576-3317

SPECIAL INSTRUCTIONS: Report only students enrolled in a degree program. Count Co-op students (see definition below) as full-time students. If exact figures are not available, give your best estimate and indicate by an "E" after each number that is estimated.

DEFINITIONS:

Junior: A student who is more than one and less than two academic years short of a Bachelor's degree or equivalent.

Senior: A student who is one year or less short of a Bachelor's degree or equivalent.

Master's Candidate: A student enrolled in a program leading to any degree below the Ph.D. and above the BS or BA (i.e., a fifth year student in an integrated program leading directly to the MS or a candidate for a first professional degree).

CO-OP Student: A student who alternates sessions of schooling with sessions of employment in a position related to the academic specialty.

Foreign National: Any student who is a citizen of another country and who has not applied for U.S. citizenship.

White not of Hispanic origin: A person having origin in any of the original peoples of Europe, North Africa, or the Middle East.

Black not of Hispanic origin: A person having origin in any of the black racial groups of Africa.

Hispanic: A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race.

Asian or Pacific Islander: A person having origin in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands.

American Indian or Alaskan Native: A person having origin in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition.

DOE Form IR-616-A

U.S. Department of Energy

# NUCLEAR ENGINEERING ENROLLMENT AND DEGREE SURVEY–SUPPLEMENT

FORM APPROVED
OMB NO. 1901-0015
Exp. June 1983

**Reporting Institution** _____ **Date** _____

Please indicate placements or plans of degree recipients for July 1981–June 1982

| PLACEMENT OR PLANS AFTER GRADUATION | BACHELORS | | MASTERS | | DOCTORATES | |
|---|---|---|---|---|---|---|
| | Total Graduates | Number of Foreign Nationals in Total | Total Graduates | Number of Foreign Nationals in Total | Total Graduates | Number of Foreign Nationals in Total |
| Futher study | | | | | | |
| U.S. academic employment (show students employed part time under "Futher study") | | | | | | |
| Federal government employment | | | | | | |
| Government-owned, contractor-operated installations employment (GOCOs) | | | | | | |
| State and local government employment | | | | | | |
| Nuclear utility employment, U.S. | | | | | | |
| Other industrial employment, U.S. | | | | | | |
| Employment with foreign employer | | | | | | |
| U.S. military service | | | | | | |
| Other (specify) | | | | | | |
| Still seeking employment | | | | | | |
| Unknown | | | | | | |
| TOTAL (should agree with totals of degrees reported on front sheet) | | | | | | |